THE TAXONOMY OF SOME WEST AMERICAN AND ATLANTIC NASSARIIDAE BASED ON THEIR TYPE - SPECIMENS

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Abstract. The type-specimens of 57 species of Nassariidae are discussed and illustrated. Species originally described from the Indo-Pacific, i.e. *Nassarius gwatkinianus* (Melvill), *N. corrugatus* (A. Adams), *N. lautus* (Marrat) and *N. nevillianus* (Preston), are synonyms of previously described West American Nassariidae. *N. hanleyanus* (Marrat) and *N. decoratus* (Marrat) described from unknown locality, are West American nassariid synonyms while *N. moestus* (Hinds), originally described from West America, is an Indo-Pacific species and not conspecific with *N. brunneostomus* (Stearns), which is the taxon applicable to the West American species. *N. scabriusculus* (Powys) appears to be an earlier name for *N. collarius* (C. B. Adams) and the *N. scabriusculus auctt.* is the species *N. stimpsonianus* (C. B. Adams). *N. antillarum* (d'Orbigny), often synonymised with *N. albus* (Say) is *N. vibex* (Say). *N. pumilio* (E. A. Smith) is an earlier name for the West African *N. madseni* (Knudsen). *Cyllene owenii* Gray in Griffith & Pidgeon, is considered to be a prior taxon for *C. senegalensis* Petit de la Saussaye from West Africa and *Demoulia obtusata* (Link) is the earliest name applicable for the West African species currently known as *D. pinguis* A. Adams. *Nassarius vaucheri* (Pallary) from Morocco is not a *Nassarius* but probably belongs to *Chauvetia* Monterosato. *N. planocostatus* (A. Adams) described from Peru is a synonym of the Indian Ocean *N. foveolatus* (Dunker). The new name *Cyllene desnoyersi lamarcki* is proposed for the homonymous West African *C. lyratum* (Lamarck, 1822).

This is the first of a series of papers in preparation for a monograph of Indo-Pacific Nassariidae. Its purpose is to re-assign species originally described from the Indo-Pacific to other faunal regions where they actually belong, and to elucidate the identity of certain non-Indo-Pacific species described from unknown locality. The specific and supraspecific taxonomy of the Nassariidae, particularly those of the Indo-Pacific, is still in a state of chaos and even the validity of the family-name Nassariidae is being questioned and its acceptance or rejection is currently under review by the International Commission on Zoological Nomenclature. For this reason, and until all generic names have been evaluated, the single genus *Nassarius s. lato* has been adopted.

The three dimensions given throughout this paper represent in sequential order the length × width × height of aperture expressed in mm. The following institutional abbreviations are used in this paper:

B.M.N.H. = British Museum (Natural History), London

MCML = Merseyside County Museums, Liverpool

MCZ = Museum of Comparative Zoology, Harvard

USNM = National Museum of Natural History, Washington

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Order **NEOGASTROPODA**

Superfamily BUCCINACEA

Family NASSARIIDAE Iredale, 1916

(A decision on the validity of the family-group name is pending by the I.C.Z.N., No. Z.N. (S.) 1887).

Genus **Nassarius** Duméril, 1806

Nassarius Duméril, 1806, Zool. Analyt. p. 166. Type-species by SM (Froriep, 1806) *Buccinum arcularia* L. = *B. arcularia* Linnaeus, 1758. Recent, Indo-Pacific.
Nassarius s. lato

Figs. 1-6. *Nassarius perpinguis* (Hinds). 1, 2. Holotype BMNH No. 1844.9.23.5.; length 21.0 mm. 3, 4 Holotype of *N gwatkinianus* (Melvill), BMNH No 1921.1.28.4.; length 18.0 mm. 5, 6. Holotype of *N. corrugatus* (A. Adams), BMNH No. 193225; length 33.9 mm.

Nassarius perpinguis (Hinds, 1844) (Figs. 1-6)

1844. *Nassa perpinguis* Hinds, Zool. Voy. H.M.S. "Sulphur", Moll. Pt. 2: 36, pl. 9, figs. 12, 13; 1852 A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 109; 1859 Chenu, Man. Conchyly. 1: 162, textfig. 773.

1852. *Nassa corrugata* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 110 (*non Buccinum corrugatum* Brocchi, 1814 = *Nassarius*).

1855. *Nassa intastriata* Conrad, U.S. House Rep. Docum. No. 129: 17.

1856. *Nassa interstriata* Conrad, U.S. Pacif. Railr. Surv. 5: 327 (emend. spelling).

1877. *Nassa undata* Marrat, Prop. new forms gen. *Nassa*, p. 9 (Hab: ?) [*fide* Tomlin, 1940].

1908. *Nassa perpinguis* var. *bifasciata* Berry, Nautilus, 22: 39.

1917. *Alectrion perpinguis* (Hinds), Dall, Proc. U.S. Nat. Mus. 51: 576; 1927 Oldroyd, Mar. shells W. coast N. America 2 (1): 266, pl. 26, fig. 11.

1918. *Alectryon (Hima) gwatkinianus* Melvill, Ann. Mag. Nat. Hist. (9) 1: 139, pl. 4, fig. 4.

1931. *Nassarius (Schizopyga) perpinguis* (Hinds), Grant & Gale, Mem. San Diego Soc. Nat. Hist. 1: 673, pl. 26, figs. 51, 52.

1942. *Zeuxis corrugata* (A. Adams), Yen, Proc. Malac. Soc. Lond. 24: 233, pl. 23, fig. 167 (figd. holotype).

1952. *Nassarius perpinguis* (Hinds), Demond, Pacif. Science 6 (4): 305, pl. 2, figs. 4, 5.

1954. *Nassarius (Hinia) perpinguis* (Hinds), Americ. Seashells p. 239, textfig. 53e.

1965. *Nassarius (Caesia) perpinguis* (Hinds), Addicott, U.S. Geol. Surv. Prof. Pap. 503-B: B6, pl. 3, figs. 29, 32.

DISTRIBUTION. Puget Sound, Washington to Magdalena Bay, L. California, Mexico.

TYPE SPECIMENS AND TYPE LOCALITIES

N. perpinguis. Holotype in B.M.N.H. No. 1844.9.23.5.; 21.0 × 12.0 × 10.0 mm. Fawn in colour, 6 nodulose spiral cords on the penultimate and 13 primary cords on the body whorl. Magdalena Bay, California [Mexico].

N. corrugata. Holotype in B.M.N.H. No. 193225; 33.9 × 17.6 × 15.0 mm. Cream in colour, 5 primary nodulose spiral cords on penultimate and 17 on the body whorl. Eastern Seas = error.

A. (H.) gwatkinianus. Holotype in B.M.N.H. No. 1921.1.28.4.; 18.0 × 10.7 mm. Creamy-yellow in colour, 6 primary nodulose cords on penultimate and 12 on the body whorl. Persian Gulf = error.

According to Oldroyd (1927), Grant & Gale (1931) and Demond (1952), the type specimen of *Nassarius perpinguis* is said to be in the Zoological Museum, Copenhagen. Hind's type of *N. perpinguis*, as most of his types from the "Sulphur" voyage, are in the British Museum (Nat. Hist.), London.

The holotype of *N corrugatus* is a very large and more slender individual of *N. perpinguis*. According to Grant & Gale (*op. cit.*), *N. perpinguis* is usually an evenly ventricose species with generally a narrow shelf at the sutures, but the authors point out that both tall and short forms have been collected. Adams' *N. corrugatus* is the tall form with the narrow sutural shelf, and also has the secondary spiral threads on the upper part of the body whorl, mentioned by Addicott (1965). A similar slender example has been illustrated by Grant & Gale (1931, pl. 26, figs. 51, 52). *Nassa corrugata* A. Adams is a secondary homonym of *Buccinum corrugatum* Brocchi, 1814, a *Nassarius (Hinia)* species from the Italian Pliocene.

The holotype of *N. gwatkinianus* (Melvill) is the more usual, ventricose form of *N. perpinguis*. Melvill (1918) received the specimen from Prof. Gwatkin, who supposedly received it from Townsend. Gwatkin's rather frequent errors in identifications and localisation of radulae extracted from specimens, would explain Melvill's citation of "Persian Gulf" for this West American species. No species similar to *N. perpinguis* lives in either the Persian Gulf or the Indo-Pacific.

Authors have usually compared or sometimes confused *N. perpinguis* with *N. californianus* (Conrad, 1856) from Pliocene deposits of California. Despite their close resemblance on a specific level, Addicott (1965) placed *N. californianus* in the subgenus *Demondia* Addicott, 1965 (substitute name for *Schizopyga* Conrad, 1856 — *non* Gravenhorst, 1829) and *N. perpinguis* in *Caesia* H. & A. Adams, 1853, of which it is the type species. *N. fossatus* (Gould), the type species of *Zaphon* H. & A. Adams, 1853, which is morphologically quite different from *N. perpinguis*, has been amalgamated with *Caesia* by Addicott (*op. cit.*). Apart from the coarser sculpture of *N. californianus*, other morphological differences on a subgeneric basis between this species and *N. perpinguis* are negligible, and *Demondia* Addicott is considered a synonym of *Caesia* H. & A. Adams.

Nassarius fossatus (Gould, 1850)

To the synonymy given by Grant & Gale (*op. cit.*) and Demond (*op. cit.*), should be added *Nassa morleti* Crosse, 1867, described from unknown locality. The illustrated type is somewhat immature but is clearly conspecific with *N. fossatus*.

Nassarius mendicus (Gould, 1850) (Figs. 7-11)

1850. *Nassa mendica* Gould, Proc. Boston Soc. Nat. Hist. 3: 155; 1852 Gould, U.S. Expl. Exped. 12: 263, pl. 19, figs. 331, 331a.

1852. *Nassa woodwardi* Forbes, Proc. Zool. Soc. Lond. for 1850, Pt. 18: 273, pl. 11, figs. 3, 3*.

1852. *Nassa cooperi* Forbes, Proc. Zool. Soc. Lond. for 1850, Pt. 18: 273, pl. 11, figs. 4, 4*.

1859. *Nassa gibbsii* Cooper, U.S. Pacif. Railr. Repts. Suppl. 1 (3): 371 (Port Townsend, Puget Sound).

1877. *Nassa acutangula* Marrat, Prop. new forms gen. Nassa, p. 9 (*fide* Tomlin, 1940 = immature specimen of the form *cooperi*).

1927. *Alectrion mendicus* (Gould), Oldroyd, Mar. shells W. coast N. America, 2 (1): 265, pl. 26, fig. 6, 14.

1927. *Alectrion cooperi* (Forbes), Oldroyd, Mar. shells W. coast N. America, 2 (1): 265, pl. 26, fig. 8.

1927. *Alectrion mendicus indisputabilis* Oldroyd, Mar. shells W. coast N. America, 2 (1): expl. to pl. 26, fig. 4.

1931. *Nassarius (Schizopyga) mendicus* (Gould), Grant & Gale, Mem. San. Diego Soc. Nat. Hist. 1: 674, pl. 26, fig. 54.

1931. *Nassarius (Schizopyga) mendicus* var. *cooperi* (Forbes), Grant & Gale, Mem. San. Diego Soc. Nat. Hist. 1: 674, pl. 26, figs. 40, 50.

1952. *Nassarius mendicus* (Gould), Demond, Pacif. Science 6 (4): 308, pl. 1, fig. 3.

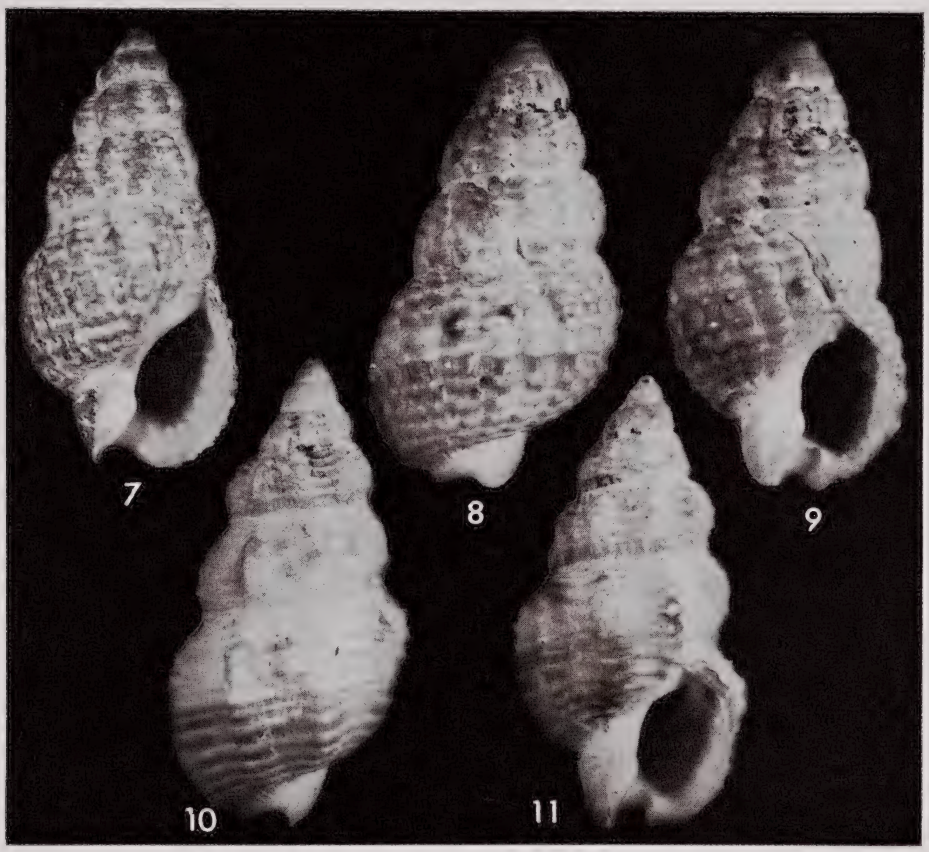
1952. *Nassarius mendicus cooperi* (Forbes), Demond, Pacif. Science, 6 (4): 309, pl. 1, fig. 1.

1954. *Nassarius (Hinia) mendicus* (Gould), Abbott, Americ. Seashells, p. 240, textfig. 53d.

1965. *Nassarius (Demondia) mendicus* (Gould), Addicott, U.S. Geol. Surv. Prof. Pap. 503-B: B3, pl. 1, figs. 14, 16.

1965. *Nassarius (Demondia) mendicus* forma *cooperi* (Forbes), Addicott, U.S. Geol. Surv. Prof. Pap. 503-B: B3, pl. 1, figs. 17-19.

1965. *Nassarius (Demondia) mendicus* forma *indisputabilis* (Oldroyd), Addicott, U.S. Geol. Surv. Prof. Pap. 503-B: B3, pl. 1, figs. 11-13.



Figs. 7-11. *Nassarius mendicus* (Gould). 7. Holotype USNM No. 5727; length 20.4 mm. 8, 9. Holotype of *N. woodwardi* (Forbes), BMNH; length 11.4 mm. 10, 11. Syntype of *N. cooperi* (Forbes), BMNH No. 1855.4.5.13.; length 16.7 mm.

DISTRIBUTION. Alaska to Magdalena Bay, L. California, Mexico.

TYPE SPECIMENS AND TYPE LOCALITIES

N. mendica. Holotype in USNM No. 5727; 20.4 × 10.0 × 9.4 mm. Brown in colour, with 12 axial ribs on the penultimate and 12 ribs on the body whorl, penult whorl with 6 spiral cords. On label is "Straits of Fuca, W. coast Nth. America" (= Strait of Juan de Fuca, Washington State).

N. cooperi. Two syntypes in B.M.N.H. No. 1855.4.5.13.; illustrated syntype 16.7 × 8.3 × 7.6 mm. Nine axial ribs on penultimate and 8 ribs on the body whorl, penult whorl with 5 spiral cords. Sandwich Islands [= Hawaiian Is) = error. Probably on the coast between San Diego and Magdalena Bay, where most of the material of the "Herald" and "Pandora" was collected.

N. woodwardi. Holotype in B.M.N.H.; 11.4 × 6.2 × 5.2 mm. This is the same form as the typical *N. mendicus*. Sandwich Islands [= Hawaiian Is] = error. Probably on coast between San Diego and Magdalena Bay.

The publication date for *N. mendicus* is variously given as either 1851 (Grant & Gale, 1931) or 1849 (Demond, 1952), but the correct date is 1850 (Johnson, 1964). Grant & Gale (*op. cit.*) and Demond (*op. cit.*) cite 1850 as the publication date of *N. cooperi,* whereas the correct date is 1852 (Duncan, 1937).

The ecophenotypic variant *N. cooperi* is usually considered as a subspecies, variety or form of *N. mendicus*. The form *cooperi* has fewer, more angulate and wider spaced axial ribs, more shouldered whorls and consequently an angulate outer lip, and spiral cords on the lower half of the body whorl which are not nodulose. Both forms are sympatric and according to Demond (*op. cit.*) occur together at many points along the Pacific coast between Washington State and San Diego, and according to Grant & Gale (*op. cit.*), integrades are frequent. In some Indo-Pacific species the range of variation is often greater than in *N. mendicus*, and sometimes as many as 5 distinct forms can be recognised on the basis of form, sculpture and colour.

Nassarius catallus (Dall, 1908) (Figs. 12-19)

1880. *Nassa hanleyana* Marrat, Var. shells gen. Nassa, pp. 75, 83; 1940 Tomlin, Proc. Malac. Soc. Lond. 24 (1): 36 (non *Buccinum hanleyanum* Dunker, 1847 = *Nassarius*).

1908. *Alectrion (Hima) catallus* Dall, Bull. Mus. Comp. Zool. Harvard 43 (6): 307, pl. 11, fig. 11.

1917. *Alectrion catallus* Dall, Proc. U.S. Nat. Mus. 51: 576.

1917. *Alectrion polistes* Dall, Proc. U.S. Nat. Mus. 51: 577.

1945. *Nassarius catallus* (Dall), Strong in Burch, Min. Conch. Club Sth. Calif. No. 51: 4; 1952 Demond, Pacif. Science 6 (4): 312, pl. 1, fig. 8; 1958 Keen, Sea shells trop. W. America p. 408, fig. 569; 1965 Addicott, U.S. Geol. Surv. Prof. Pap. 503-B: B11; 1971 Keen, Sea shells trop. W. America, ed. 2: 606, fig. 1292.

1958. *Nassarius polistes* (Dall), Keen, Sea shells trop. W. America, p. 411, fig. 584.

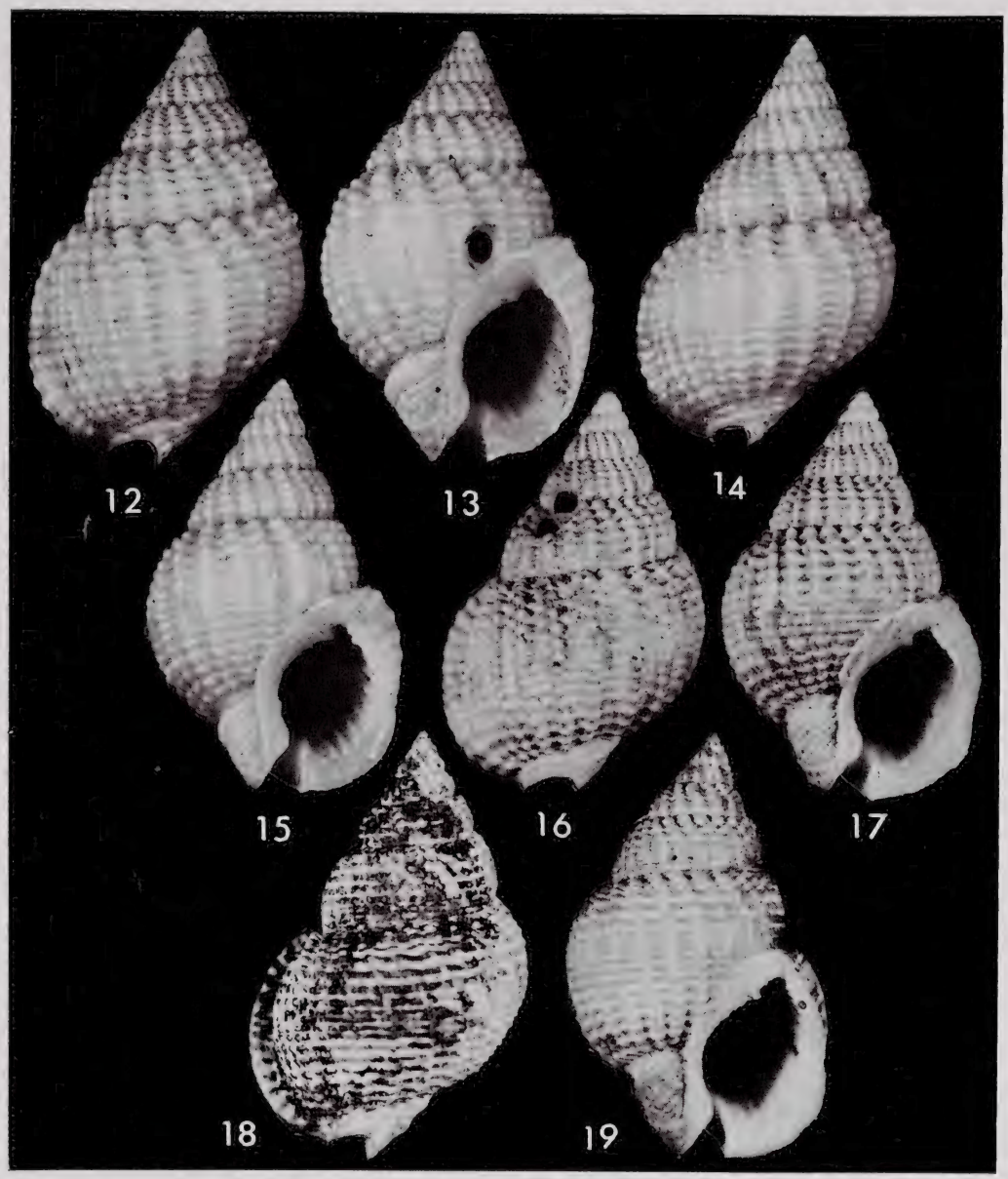
DISTRIBUTION. Baja California to Peru and the Galápagos Is.

TYPE SPECIMENS AND TYPE LOCALITIES

N. hanleyana. Two syntypes in MCML; larger syntype 14.4 × 9.0 × 7.8 mm, smaller syntype 13.6 × 8.4 × 7.0 mm. Faded straw-yellow or cream in colour, penultimate whorl with 19-20 axial ribs and 6-7 spiral cords, body whorl with 17 ribs and 14 spiral cords, columella minutely denticulate, outer lip with 12-13 plicate denticles. Locality unknown.

A. catal'us. Holotype in USNM No. 123013; 13.6 × 8.6 × 7.2 mm. Straw-yellow in colour, penultimate whorl with 19 axial ribs and 6 spiral cords, body whorl with 18 ribs and 14 spiral cords, columella minutely denticulate, outer lip plicate. Gulf of Panama, 182 fathoms (333 m), mud, 54.1°F (12.0°C).

A. polistes. Lectotype in USNM No. 96642; 23.0 × 14.4 × 12.0 mm. Straw-yellow in colour, penultimate whorl with 5-7 spiral cords and body whorl with 16, last two whorls with *c.* 20 axial ribs which are weak and undefined on the dorsal side, outer lip with 15 plicate denticles.



Figs. 12-19. *Nassarius catallus* (Dall) 12-15. Syntypes of *N. hanleyanus* (Marrat), MCML. 12, 13. Length 14.4 mm. 14, 15. Length 13.6 mm. 16, 17. Holotype of *N. catallus* (Dall), USNM No. 123013; length 13.6 mm. 18, 19. Lectotype of *N polistes* (Dall), USNM No. 96642; length 23.0 mm.

Tomlin (1940) erroneously synonymised *N. hanleyanus* (Marrat) with *N. sordidus* (A. Adams, 1852), an Indo-Pacific species of appreciably different appearance. No single specific diagnostic character can be found which would differentiate *N. hanleyanus* from either *N. catallus* or *N. polistes*. Being a secondary homonym of *Buccinum hanleyanum* Dunker, 1847, *Nassarius hanleyanus* (Marrat) is relegated to the synonymy of *N. catallus*.

Nassarius nodicinctus (A. Adams, 1852) Figs. 20-24)

1852. *Nassa nodicincta* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 110; 1864 Carpenter, Rept. Brit. Assoc. Adv. Sci. for 1863, pp. 539, 667.

1917. *Alectrion nodicinctus* (A. Adams), Dall, Proc. U.S. Nat. Mus. 51: 576; 1927 Oldroyd, Mar. shells W. coast N. America, p. 268.

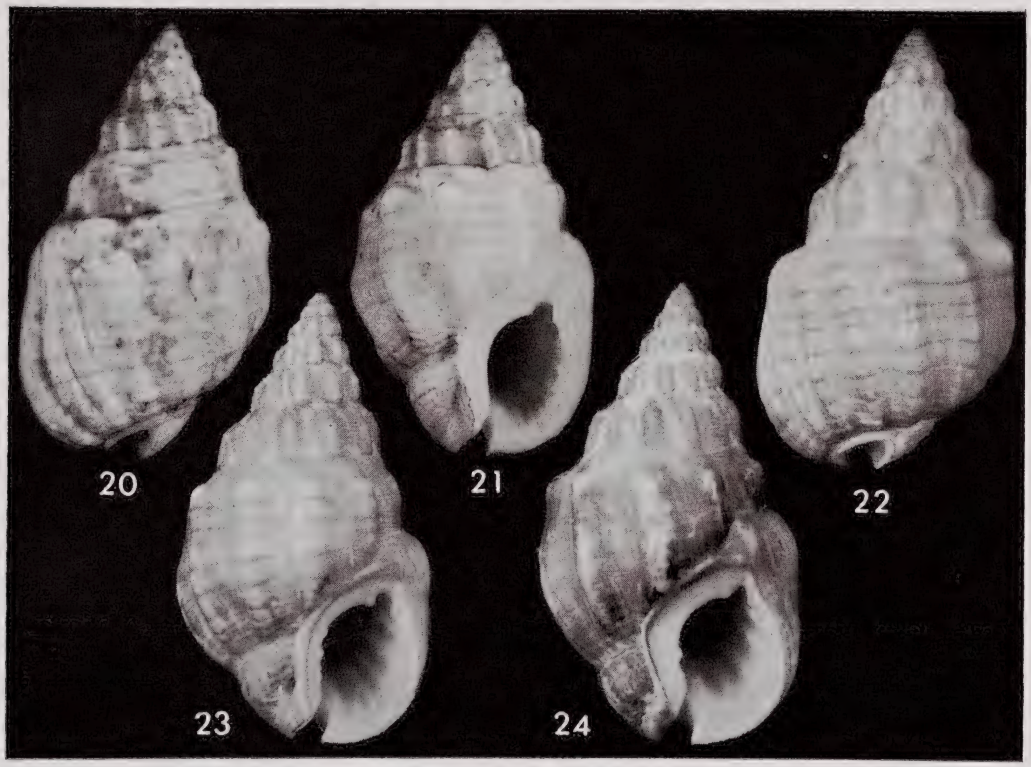
1921. *Zeuxis nodicinctus* (Adams), Dall, U.S. Nat. Mus. Bull. 112: 103.

1927. *Nassarius nodicinctus* (A. Adams), Tomlin, J. Conch. 18: 160 (Coiba I, W. Bay of Panama; Gorgona I, off Colombia, 3°N Lat.; Indefatigable and James Is, Galápagos Is); 1945 Strong in Burch, Min. Conch. Club Sth. Calif. No. 51: 6; 1952 Demond, Pacif. Science, 6 (4): 315; 1955 Hertlein & Strong, Ess. Nat. Sci. hon. Capt. Hancock, Univ. Sth. Calif. p. 129, pl. A, fig. 9; 1971 Keen, Sea shells trop. W. America, ed. 2: 607, fig. 1307.

1932. *Nassa angulicostis* Pilsbry & Lowe, Proc. Acad. Nat. Sci. Philad. 84: 69, pl. 6, fig. 2 (Guaymas; Nicaragua; Panama).

1932. *Nassa angulicostata* Pilsbry & Lowe, Proc. Acad. Nat. Sci. Philad. 84: 115 (invalid emend.).

1971. *Nassarius angulicostis* (Pilsbry & Lowe), Keen, Sea shells trop. W. America, ed. 2: 604, fig. 1291.



Figs. 20-24. *Nassarius nodicinctus* (A. Adams). 20, 21. Syntype BMNH, length 16.1 mm. 22, 23. Specimens from Taboga, Panama, 9 m. 22, 23. Length 14.5 mm. 24. Length 15.0 mm.

DISTRIBUTION. Gulf of California to Colombia and the Galápagos Is.

TYPE SPECIMENS AND TYPE LOCALITIES

N. nodicincta. Two syntypes in B.M.N.H.; illustrated syntype 16.1 × 9.0 × 9.0 mm. Whitish with orange-brown spiral lines, penultimate whorl with 12 axial ribs and 10 spiral threads, body whorl with 9 axial ribs, 2 spiral threads near the sutures, central area smooth, base with 5 spiral cords. Galápagos Is, 7 fathoms (13 m).
N. angulicostis. Holotype in ANSP No. 155331, from San Juan del Sur, Nicaragua, 20 fathoms (37 m).

When Pilsbry & Lowe (1932) described *N. angulicostis,* they cited the following differentiating characters: the weaker grooving or smoothness of the median area of the body whorl in *N. angulicostis* (the syntype of *N. nodicinctus* is equally as smooth), the more numerous spirals on the penultimate whorl, i.e. 10 (the same number is found in the syntype of *N. nodicinctus*), and the deeper siphonal notch (which is the same depth in *N. nodicinctus*). Recent specimens examined from Taboga, Panama, 9 metres (*leg.* T. Mortensen, 1915 — Zool. Mus. Copenhagen) were either broad and squat or slender and elongate, and some individuals closely matched the syntypes of *N. nodicinctus.* The illustrated syntype of *N. nodicinctus* (Fig. 20) is no more angulate in outline nor has it more indented or tabulate sutures than the type of *N. angulicostis* or specimens from Panama (Fig. 23).

Fig. 25. Holotype of *Nassarius myristicatus* (Hinds), BMNH No. 1844.9.23.11.; length 27.2 mm.

Nassarius myristicatus (Hinds, 1844) (Fig. 25)

1844. *Nassa myristicata* Hinds, Zool. Voy. H.M.S. "Sulphur", Moll. Pt. 2: 36, pl. 9, figs. 10, 11; 1852 A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 109; 1932 Pilsbry & Lowe, Proc. Acad. Nat. Sci. Philad. 84: 68, pl. 6, fig. 1.

1853. *Nassa myristica (sic)* Hinds, Reeve, Conch. Icon. 8: pl. 18, fig. 119; 1882 Tryon, Man. Conch. 4: 45, pl. 14, figs. 231, 232 (invalid emend.).

1928. *Nassarius myristicatus* (Hinds), Tomlin, Ann. Sth. Afric. Mus. 25 (2): 322 (not South African = Panamanian); 1958 Keen, Sea shells trop. W. America, p. 410, fig. 580.

1964. *Pallacera myristicata* (Hinds), Woodring, U.S. Geol. Surv. Prof. Pap. 306-C: 269.

1971. *Nassarius (Pallacera) myristicatus* (Hinds), Keen, Sea shells trop. W. America, ed. 2: 610, fig. 1322.

DISTRIBUTION. Nicaragua to Panama.

TYPE SPECIMEN AND TYPE LOCALITY

N. myristicata. Holotype in B.M.N.H. No. 1844.9.23.11.; 27.2 × 15.5 × 13.8 mm. Greyish-brown, interstices at sutures blackish-brown, penultimate whorl with 9 strong axial ribs and 3 wavy spiral cords, body whorl with 11 ribs and 8 spiral cords, 7 plicae distributed over the whole length of the columella, aperture with 9 prominent lirae. Cape of Good Hope = error.

Tomlin (1928) was the first writer to correctly localise *N. myristicatus* from Panama on the basis of Cuming specimens in the British Museum (Nat. Hist.), while Pilsbry & Lowe (1932) illustrated a specimen from Montijo Bay. Montijo Bay, Panama, is here designated as the type locality of *N. myristicatus* (Hinds).

N. myristicatus is the type-species of *Pallacera* Woodring, 1964. The West African *N. tritoniformis* (Kiener, 1841) and *N. cinctellus* (A. Adams, 1852 [non Gould, 1850] from St. Helena are similar to *N. myristicatus* and belong to the same subgenus. The fossil species *Potamides maracaibensis* Weisbord, 1929, and *Phos urumacoensis* Hodson in Hodson & Hodson, 1931, from the Venezuelan Miocene, were placed in *Pallacera* and assigned together with *Antillophos* Woodring, to the Nassariidae by Jung (1965). These two species and the genus *Antillophos* belong to the subfamily Photinae, in the Buccinidae.

Nassarius versicolor (C. B. Adams, 1852) (Figs. 26, 27)

1852. *Nassa versicolor* C. B. Adams, Ann. Lyc. Nat. Hist. New York, 5: 290 (publ. June 1852); 1956 Turner, Occ. Pap. Moll. Harvard, 2 (20): 97, pl. 6, fig. 8 (figd. lectotype).

1852. *Nassa rufocincta* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 106 (publ. 7th December 1852); 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (1): 43.

1853. *Nassa albipunctata* Reeve, Conch. Icon. 8: pl. 21, sp. 144; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (2): 95.

1880. *Nassa picturata* Marrat, Var. shells gen. *Nassa*, pp. 57, 58 (*fide* Tomlin, 1940).

1927. *Nassarius versicolor* (C. B. Adams), Tomlin, J. Conch. 18: 609 (Taboga, Panama; James I, Galápagos Is, 6 m); 1971 Keen, Sea shells trop. W. America, ed. 2: 609, fig. 1314.

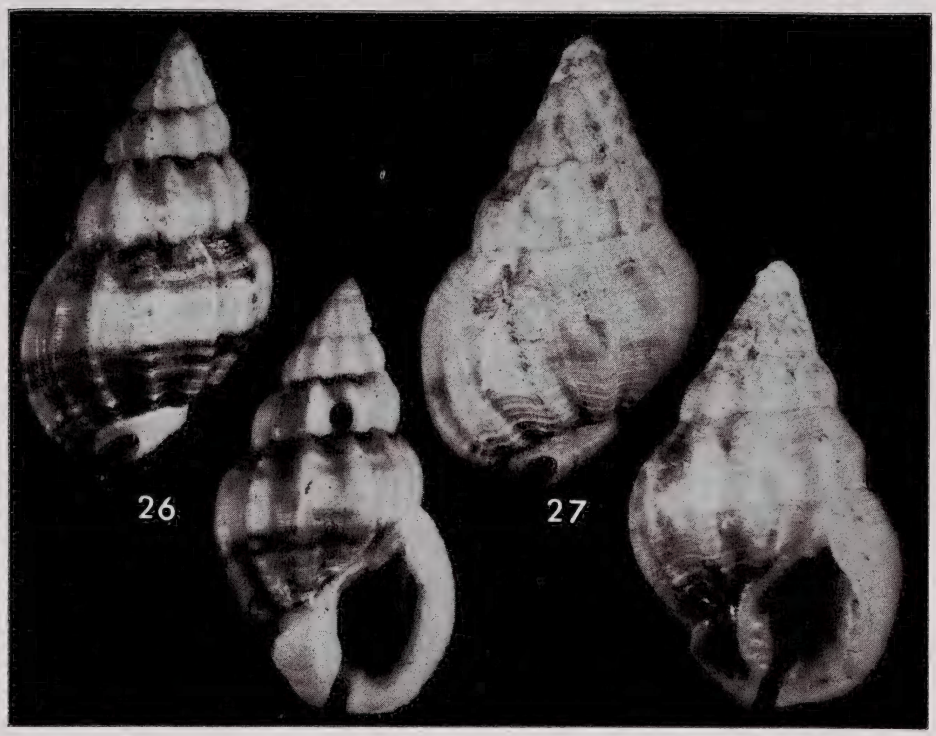
DISTRIBUTION. Lower California to Peru and the Galápagos Is.

TYPE SPECIMENS AND TYPE LOCALITIES

N. rufocincta. Holotype in B.M.N.H.; 14.1 × 7.7 × 6.4 mm. Creamy-white, banded with brown, with 9 axial ribs on the penultimate and 11 ribs on the body whorl. Honduras.

N. albipunctata. Holotype in B.M.N.H. No. 197311; 12.0 × 7.1 × 5.7 mm. Whitish with faint brown bands, with 10 axial ribs on the penultimate and 12 on the body whorl.

A detailed synonymy for this species may be found in Keen (1971).



Figs. 26, 27. *Nassarius versicolor* (C. B. Adams). 26. Holotype of *N. rufocinctus* (A. Adams), BMNH; length 14.1 mm. 27. Holotype of *N. albipunctatus* (Reeve), BMNH No. 197311; length 12.0 mm.

Nassarius dentifer (Powys, 1835) (Fig. 28)

1835. *Nassa dentifera* Powys, Proc. Zool. Soc. Lond. Pt. 3: 95; 1852 A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 119: 111; 1853 Reeve, Conch. Icon. 8: pl. 19, fig. 130.

1841. *Buccinum dentiferum* d'Orbigny, Voy. l'Amer. mérid. 5: 432 and 9: pl. 61, figs. 22, 23.

1852. *Nassa tschudii* Troschel, Arch. f. Naturg. 18 (1): 173, pl. 5, figs. 4a-c (Peru); 1915 Preston, J. Conch. 14 (11): 350.

1858. *Buccinum unidentatum* "Powis", Küster, Syst. Conch.-Cab. Mart. Chemn. 3 (1A): pl. 5 (error for pl. 6), figs. 4-6 (Chile).

1909. *Alectrion (Hima) dentiferus* (Powys), Dall, Proc. U.S. Nat. Mus. 37: 214.

1909. *Alectrion (Tritia) tschudii* (Troschel), Dall, Proc. U.S. Nat. Mus. 37: 215.

1945. *Nassarius dentiferus* (Powys), Strong in Burch, Min. Conch. Club Sth. Calif. No. 51: 5; 1952 Demond, Pacif. Science, 6 (4): 315.

1945. *Nassa teschudii (sic)* (Troschel), Strong in Burch, Min. Conch. Club Sth. Calif. No. 51: 5.

1971. *Nassarius dentifer* (Powys), Keen, Sea shells trop. W. America, ed. 2: 906; 1973 Marincovich, Nat. Hist. Mus. Los. Angeles Cty. Sci. Bull. 16: 37, fig. 79.

DISTRIBUTION. Peru to Chile.

TYPE SPECIMENS AND TYPE LOCALITIES

N. dentifera. Three syntypes in the B.M.N.H.; illustrated syntype 22.8 × 11.6 × 11.6 mm. Specimen not fully mature, pale chocolate-brown in colour with a white band on each whorl, penultimate whorl with 14 axial ribs and 5 spiral rows of nodules, body

whorl with 12 ribs and 9 rows of nodules, columella with 5-6 plicae, aperture with 8 denticles. Bay of Arica, South America [= Chile], 10 fathoms (18 m), muddy bottom.

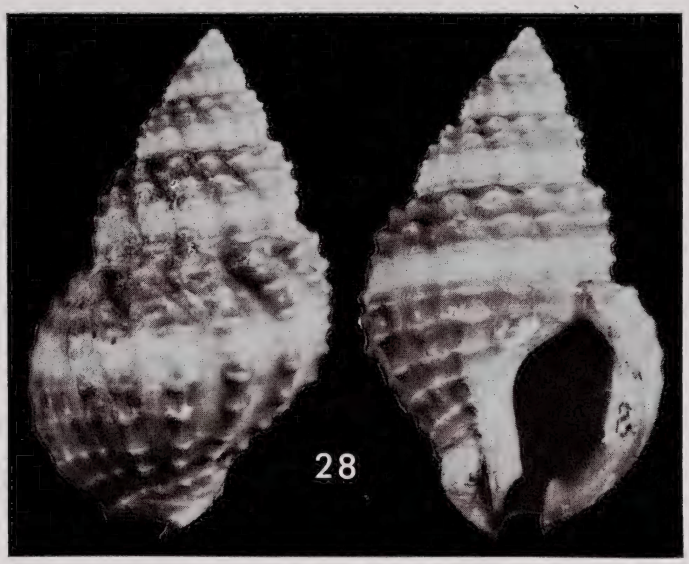


Fig. 28. Syntype of *Nassarius dentifer* (Powys), BMNH; length 22.8 mm.

The species *Nassa angulifera* A. Adams, is not conspecific with *Nassarius dentifer* as tentatively suggested by Keen (1971). For discussions on this species see under *N. anguliferus.*

Nassarius anguliferus (A. Adams, 1852) (Fig. 29)

1852. *Nassa angulifera* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 109; 1853 Reeve, Conch. Icon. 8: pl. 6, fig. 34; 1882 Tryon, Man. Conch. 4: 45, pl. 14, fig. 228; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (1): 41.

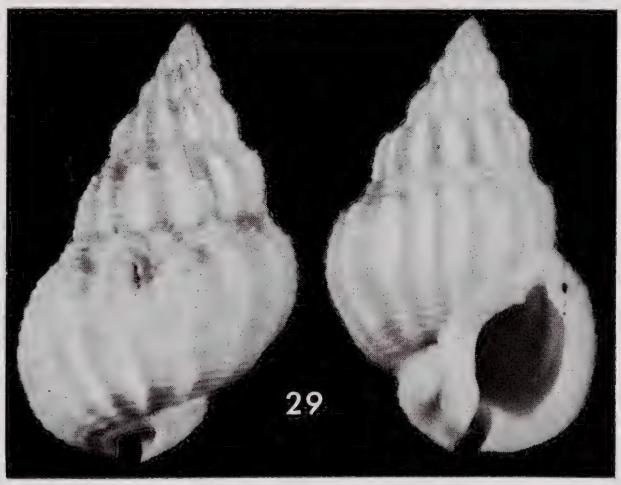


Fig. 29. Syntype of *Nassarius anguliferus* (A. Adams), BMNH No. 197312; length 17.4 mm.

TYPE SPECIMEN AND TYPE LOCALITY

N. angulifera. Three syntypes in the B.M.N.H. No. 197312; illustrated syntype 17.4 × 10.4 × 8.7 mm. Creamy-white in colour with traces of brown bands near the suture and base, penultimate whorl with 14 axial ribs and 9 overriding spiral threads, body whorl with 14 ribs and 19 spiral threads, columella finely plicate along its entire length. Galápagos Is, 10 fathoms (18 m).

There appears to be some confusion as to the identity of the species. Tomlin (1932) considered *N. anguliferus* to be a synonym of the Mediterranean-West African *N. miga* (Bruguière, 1789), while Keen (1971) tentatively placed the species in the synonymy of *N. dentifer* (Powys). *N. anguliferus* does not resemble *N. dentifer* while *N. miga* has evenly convex whorls and oblique axial ribs and lacks the adpressed sutures, concave platform anteriorly to the sutures, the angulate pre-sutural ramp and fine plicae on the columella of *N. anguliferus.* However, small individuals of *N. pagodus* (Reeve, 1844) from the west coast of America closely resemble the types of *N. anguliferus.* Larger series of specimens of *N. pagodus,* not at the writer's disposal, are required to confirm the supposition that *N. anguliferus* may fall within the variational range of *N. pagodus.*

Nassarius scabriusculus (Powys, 1835) (Figs. 30, 31)

1835. *Nassa scabriuscula* Powys, Proc. Zool. Soc. Lond. Pt. 3: 96; 1852 A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 111; 1854 Reeve, Conch Icon. 8: pl. 26, figs. 174a, b; 1882 Tryon, Man. Conch. 4: 46, pl. 14, fig. 233.

1852. *Nassa collaria* C. B. Adams, Ann. Lyc. Nat. Hist. New York, 5: 283; 1956 Turner, Occ. Pap. Moll. Harvard Univ. 2 (20): 39, pl. 5, fig. 4 (figd. lectotype).

1971. *Nassarius collarius* (C. B. Adams), Keen, Sea shells trop. W. America, ed. 2: 606, fig. 1294.

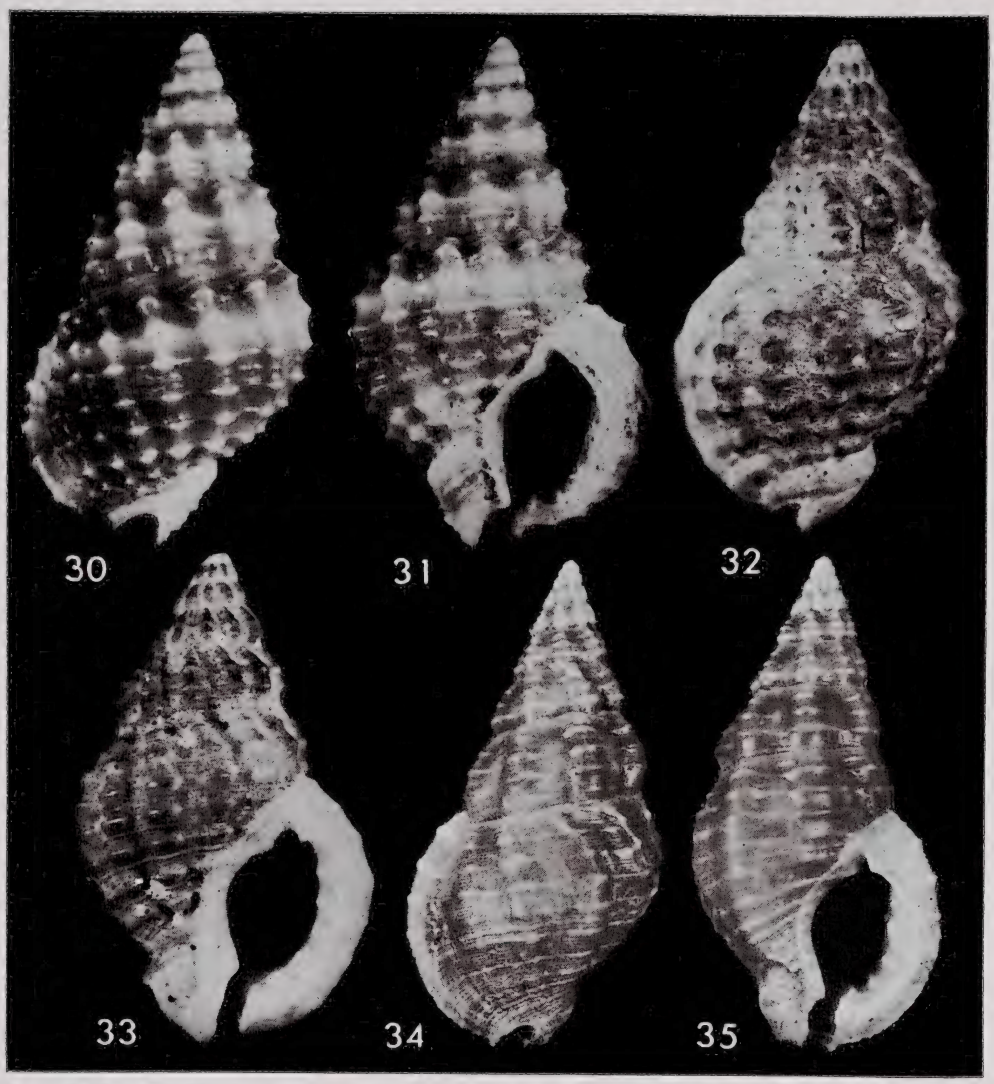
DISTRIBUTION. Guatemala to Panama.

TYPE SPECIMENS AND TYPE LOCALITIES

N. scabriuscula. Three syntypes in the B.M.N.H.; illustrated syntype 11.0 × 6.5 × 5.3 mm. Creamy-white in colour, ornamented with 2 orange-brown bands at the sutures of each whorl, lower central band on body whorl broad or narrow, penultimate with 10 axial ribs and 5 spiral cords, body whorl with 12 ribs and 8 spiral cords, spirals override axial ribs and produce prominent, angulate nodules, columella with 1 basal fold and a parietal fold and weak denticles, outer lip with 4-5 denticles. Bay of Montijo [Panama], Central America, in sandy mud, 12 fathoms (22 m).

N. collaria. Lectotype in MCZ No. 186354; 9.7 × 5.3 mm. Panama.

Keen (1971) described and illustrated *N. collarius* (C. B. Adams) and *N. scabriusculus* (Powys) as valid west American nassarid species. However, the syntypes of *N. scabriusculus* (Powys) appear to be the same species as the lectotype of *N. collarius* (C. B. Adams), and differ from the lectotype of *N. stimpsonianus* (C. B. Adams) which was illustrated by Keen (*op. cit.*) as "*N. scabrisculus*". Both *N. scabriusculus* and *N. collarius* are considerably smaller than *N. stimpsonianus*, have a decidedly heavy nodulose sculpture, closer-set axial ribs and lack the intermediate fine spiral threads between the main spiral cords which is a typical feature of *N. stimpsonianus.* For further discussion see under *N. stimpsonianus.*



Figs. 30-35. 30, 31. Syntype of *Nassarius scabriusculus* (Powys), BMNH; length 11.0 mm. 32-35. *N. stimpsonianus* (C. B. Adams). 32, 33. Holotype of *N. fuscatus* (A. Adams), BMNH No. 197337; length 21.4 mm. 34, 35. Syntype of *N. lautus* (Marrat), MCML; length 16.5 mm.

Nassarius stimpsonianus (C. B. Adams, 1852) (Figs. 32-35)

1852. *Buccinum stimpsonianum* C. B. Adams, Ann. Lyc. Nat. Hist. New York, 5: 296; 1956 Turner, Occ. Pap. Moll. Harvard Univ. 2 (20): 88, pl. 7, fig. 1 (figd. lectotype).

1852. *Nassa fuscata* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 112; 1853 Reeve, Conch. Icon. 8: pl. 19, figs. 127a, b; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (1): 42.

1880. *Nassa lauta* Marrat, Var. shells gen. Nassa, p. 82.

1971. *Nassarius scabriusculus* (Powys), Keen, Sea shells trop. W. America, ed. 2: 609, fig. 1311 (non *Nassa scabriuscula* Powys, 1835).

DISTRIBUTION. Guatemala to Panama.

TYPE SPECIMENS AND TYPE LOCALITIES

B. stimpsonianum. Lectotype in MCZ No. 186378; 18.3 × 8.1 mm. Panama.

N. fuscata. Holotype in the B.M.N.H. No. 197337; 21.4 × 12.2 × 11.4 mm. Uniformly brown in colour, aperture cream-coloured, with 4 spiral rows of risen threads upon the axial ribs on the penultimate and 8 rows on the body whorl, interspaces of main spiral cords with very fine spiral striae, columella with 8 weak denticles and a parietal fold, outer lip with 7 denticles. Locality unknown.

N. lauta. Three syntypes in MCML; illustrated syntype 16.5 × 8.3 × 8.2 mm. Violet-brown in colour, spiral cords pale, sculptured with 7 axial ribs and 3 main spiral cords on the penultimate and 8 ribs and 9 spiral cords on the body whorl, interspaces of main spiral cords with 5-6 very fine spiral striae, columella with 6 plicae, outer lip with 5 denticles. Malacca = error.

Tomlin (1932) considered *N. fuscatus* to be a synonym of *N. myristicatus* (Hinds), but the two species are very dissimilar. The holotype of *N. fuscatus* is somewhat broader and has slightly more axial ribs but has the same typical sculpture of fine intermediate spiral striae as *N. stimpsonianus* and *N. lautus. N. stimpsonianus* (C. B. Adams) is a larger (16-22 mm) and more solid species than *N. scabriusculus* (Powys) (9-12 mm) and is usually, but not always, more conically-ovate and has wider spaced axial ribs and very fine, crowded intermediate spiral striae between the main spiral cords. The spiral cords produce interrupted, paler and heavier threads upon the axial ribs, but are weak or obsolete in between the ribs.

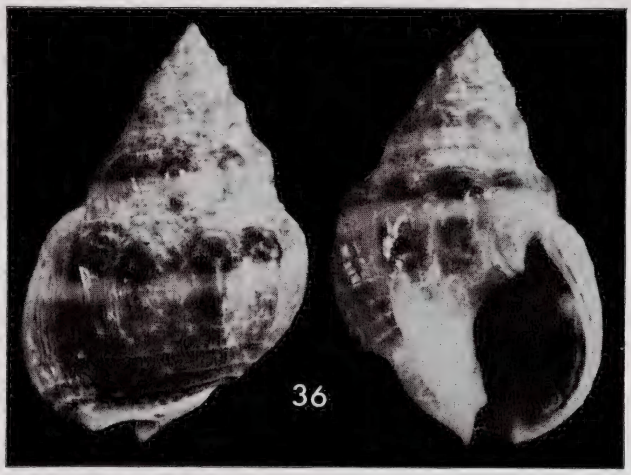


Fig. 36. Syntype of *Nassarius tegula* (Reeve), BMNH; length 14.4 mm.

Nassarius tiarula (Kiener, 1841) (Fig. 36)

1841. *Buccinum tiarula* Kiener, Spéc. gén. icon. coq. viv. 9: 111, pl. 30, fig. 4 (Indian Ocean and Madagascar = error).

1853. *Nassa tiarula* Kiener, Reeve, Conch. Icon. 8: pl. 14, figs. 92a, b; 1859 Chenu, Man. Conchyl. 1: 163, textfig. 766; 1882 Tryon, Man. Conch. 4: 41, pl. 12, figs. 174, 175; 1932 Pilsbry & Lowe, Proc. Acad. Nat. Sci. Philad. 84: 115.

1853. *Nassa tegula* Reeve, Conch. Icon. 8: pl. 15, fig. 98; 1857 Carpenter, Cat. Mazat. shells Brit. Mus. p. 496; 1882 Tryon, Man. Conch. 4: 39, pl. 12, figs. 166, 167; 1894 Stearns, Proc. U.S. Nat. Mus. 17. 180 (with *tiarula* in synonymy)

1894. *Nassa complanata* var. *major* Stearns, Proc. U.S. Nat. Mus. 17: 81 (Los Animas Bay, Gulf of California) [*non* Grateloup, 1847].

1917. *Arcularia tiarula* Kiener, Dall, Proc. U.S. Nat. Mus. 51: 577.

1917. *Arcularia tegula* Reeve, Dall, Proc. U.S. Nat. Mus. 51: 577.

1921. *Zeuxis tegula* Reeve, Dall, U.S. Nat. Mus. Bull. 112: 103.

1927. *Alectrion tegulus* Reeve, Oldroyd, Mar. shells, W. coast N. America, 2 (1): 267, pl. 26, fig. 10.

1931. *Nassarius (Nassarius) tegula* (Reeve), Grant & Gale, Mem. San Diego Soc. Nat. Hist. 1: 671, pl. 26, fig. 43.

1952. *Nassarius tegula* (Reeve), Demond, Pacif. Science, 6 (4): 307, pl. 2, fig. 8; 1969 McLean, Los Angeles Cty. Mus. Nat. Hist. Sci. ser. (24), Zool. No. 11: 48, fig. 26/4.

1952. *Nassarius tegula tiarula* (Kiener), Demond, Pacif. Science, 6 (4): 307, pl. 1, fig. 4.

1954. *Nassarius tegulus* Reeve, Abbott, Americ. Seashells, p. 238, pl. 20, fig. n.

1971. *Nassarius (Arcularia) tiarula* (Kiener), Keen, Sea shells trop. W. America, ed. 2: 610, fig. 1321 and pl. 18, fig. 3.

DISTRIBUTION. Gulf of California, Mexico to Panama (*N. tiarula*); San Francisco, California to the Gulf of California, Mexico (form *tegula*).

TYPE SPECIMEN AND TYPE LOCALITY

N. tegula. Three syntypes in B.M.N.H.; illustrated syntype 14.4 × 9.6 × 9.0 mm. Locality unknown.

Stearns (1894) erroneously placed the senior *N. tiarula* (Kiener, 1841) in the synonymy of the junior *N. tegula* (Reeve, 1853). Subsequent authors either synonymised *N. tiarula* with *N. tegula,* considered them distinct species, subspecies, or separated them into a northern and southern form. Kiener's *N. tiarula* has 12 years' chronological priority over *N. tegula* (Reeve) and Demond's (1952) subspecific combination cannot stand. Demond *(op. cit.)* did point out, however, that variations from the typical form of each are often seen, particularly where their geographical ranges overlap.

Keen (1971) placed *N. tiarula* in the subgenus *Arcularia* Link, 1807, but Mörch's designation (1863) of *Arcularia coronata* Link, 1807 (non Bruguière, 1789 [= *Buccinum arcularia* Linnaeus, 1758] as the type-species of *Arcularia,* makes the latter an objective synonym of *Nassarius* Dumèril, 1806 (see Cernohorsky, 1972). *Nassarius tiarula* (Kiener) is the type-species of *Phrontis* H. & A. Adams.

Nassarius luteostomus (Broderip & Sowerby, 1829)

1829. *Nassa luteostoma* Broderip & Sowerby, Zool. J. 4: 376 (W. coast of America).

1839. *Nassa xanthostoma* Gray, Zool. Capt. Beechey's Voy. p. 127, pl. 36, fig. 3 (Hab?).

1841. *Nassa luteostoma* Kiener, Spéc. gén. icon. coq. viv. 9: 110, pl. 30, fig. 1 (Coast of Senegal = error).

1857. *Nassa* ? *tegula* var. *nodulifera* Phil., Carpenter, Cat. Mazat. shells Brit. Mus. p. 496 (Mazatlan) [non *Buccinum noduliferum* Philippi, 1848 = *Nassarius*].

Nassa xanthostoma Gray, from unknown locality, is synonymous with *Nassarius luteostomus. Buccinum noduliferum* Philippi, 1848, from Northern China, is quite distinct from Carpenter's *Nassa tegula* var. *nodulifera.*

Nassarius complanatus (Powys, 1835) (Fig. 37)

1835. *Nassa complanata* Powys, Proc. Zool. Soc. Lond. Pt. 3: 96; 1852 A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 104; 1853 Reeve, Conch. Icon. 8: pl. 17, figs. 11a, b; 1932 Pilsbry & Lowe, Proc. Acad. Nat. Sci. Philad. 84: 115.

1849. *Buccinum gemma* Philippi, Abb. Beschr. Conchyl. 3: 44, pl. 1, fig. 5 (Hab: ?).

1882. *Nassa (Zeuxis) complanata* Powis, Tryon, Man. Conch. 4: 33, pl. 10, figs. 105, 107.

1909. *Alectrion (Hima) complanatus* Powys, Dall, Proc. U.S. Nat. Mus. 37: 214.

1917. *Arcularia complanata* Powys, Dall, Proc. U.S. Nat. Mus. 51: 577.

1917. ? *Arcularia iodes* Dall, Proc. U.S. Nat. Mus. 51: 577 (Gulf of California).

1931. *Nassarius (Nassarius) complanatus* (Powys), Grant & Gale, Mem. San Diego Soc. Nat. Hist. 1: 671.

1971. *Nassarius (Arcularia) complanatus* (Powys), Keen, Sea shells trop. W. America, ed. 2: 609, fig. 1317.

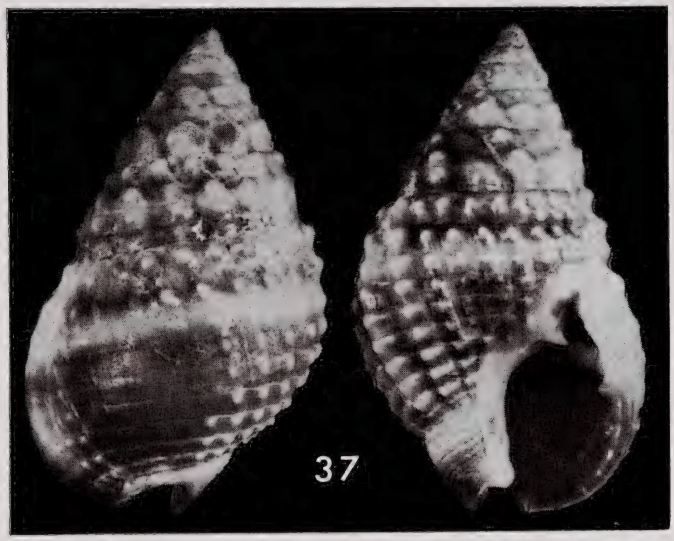


Fig. 37. Syntype of *Nassarius complanatus* (Powys), BMNH; length 11.0 mm.

DISTRIBUTION. Salvador to Northern Chile.

TYPE SPECIMEN AND TYPE LOCALITY

N. complanata. Three syntypes in the B.M.N.H.; illustrated syntype 11.0 × 6.3 × 5.4 mm. Violet-brown in colour, with a white transverse band and remnants of a dark violet-brown median band on the body whorl, penultimate whorl with 14 axial ribs and 3 spiral rows of nodules, body whorl with 12 ribs and 9 rows of nodules, sculpture becoming absent on the dorsal surface towards the outer lip, edge of columella with 8-9 small denticles, outer lip with 5-6 denticles. Atacamas, Western Columbia [= Atacames, Northern Ecuador].

Nassarius iodes (Dall), does not seem to differ from *N. complanatus* in any great degree judging from both Dall's (1917) and Keen's (1971) diagnoses. Dall's type specimen of *N. iodes* is only a fraction smaller (8.0 mm) than the illustrated syntype of *N. complanatus* (11.0 mm), both have a basically violet-brown colouring, similar sculpture which becomes feeble or obsolete on the dorsum of the body whorl, and in

most specimens of *N. complanatus* the violet-brown central band is always visible, if only sometimes as a dark violet-brown patch in line with the parietal denticle. In Keen's figure (1971, fig. 1318) of *N. iodes* the callus near the siphonal fasciole is more splayed out than in the syntype of *N. complanatus,* but in Indo-Pacific Nassariidae, the size, shape and degree of spread of the columellar callus are exceedingly variable, and unreliable for specific determination.

Nassarius exilis (Powys, 1835) (Fig. 38)

1835. *Nassa exilis* Powys, Proc. Zool. Soc. Lond. pt. 3: 95; 1852 A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 106; 1853 Reeve, Conch Icon. 8: pl. 15, figs. 101a, b; 1932 Pilsbry & Lowe, Proc. Acad. Nat. Sci. Philad. 84: 115.

1852. *Nassa panamensis* C. B. Adams, Ann. Lyc. Nat. Hist. New York, 5: 288; 1956 Turner, Occ. Pap. Moll. Harvard, 2 (20): 71, pl. 5, fig. 9 (figd. lectotype) [*non Buccinum panamense* Philippi, 1851 = *Nassarius*].

1882. *Nassa (Zeuxis) exilis* Powis, Tryon, Man. Conch. 4: 32, pl. 10, fig. 100.

1909. *Alectrion (Hima) exilis* Powys, Dall, Proc. U.S. Nat. Mus. 37: 215.

1917. *Arcularia exilis* Powys, Dall, Proc. U.S. Nat. Mus. 51: 578.

1945. *Nassarius exilis* (Powys), Strong in Burch, Min. Conch. Club Sth. Calif. 51: 5; 1971 Keen, Sea shells trop. W. America, ed. 2: 606, fig. 1296.

1951. *Arcularia exilis* (Powis), Carcelles & Williamson, Rev. Inst. Nac. Inv. Cienc. Nat. 2 (5): 300.

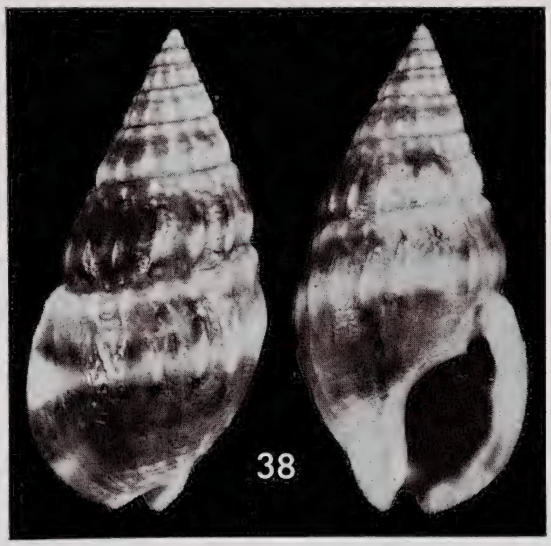


Fig. 38. Syntype of *Nassarius exilis* (Powys), BMNH; length 15.7 mm.

DISTRIBUTION. Panama to Chile.

TYPE SPECIMENS AND TYPE LOCALITY

N. exilis. Three syntypes in B.M.N.H.; illustrated syntype 15.7 × 7.2 × 7.4 mm. Purplish-brown in colour, banded with white, penultimate whorl with 16 axial ribs and 13-14 fine spiral striae, body whorl with 12 ribs, 16 fine spiral striae and 2 nodulose cords, area adjoining back of outer lip smooth, columella smooth, outer lip with 4 denticles. Payta, Peru [= Paita, Peru].

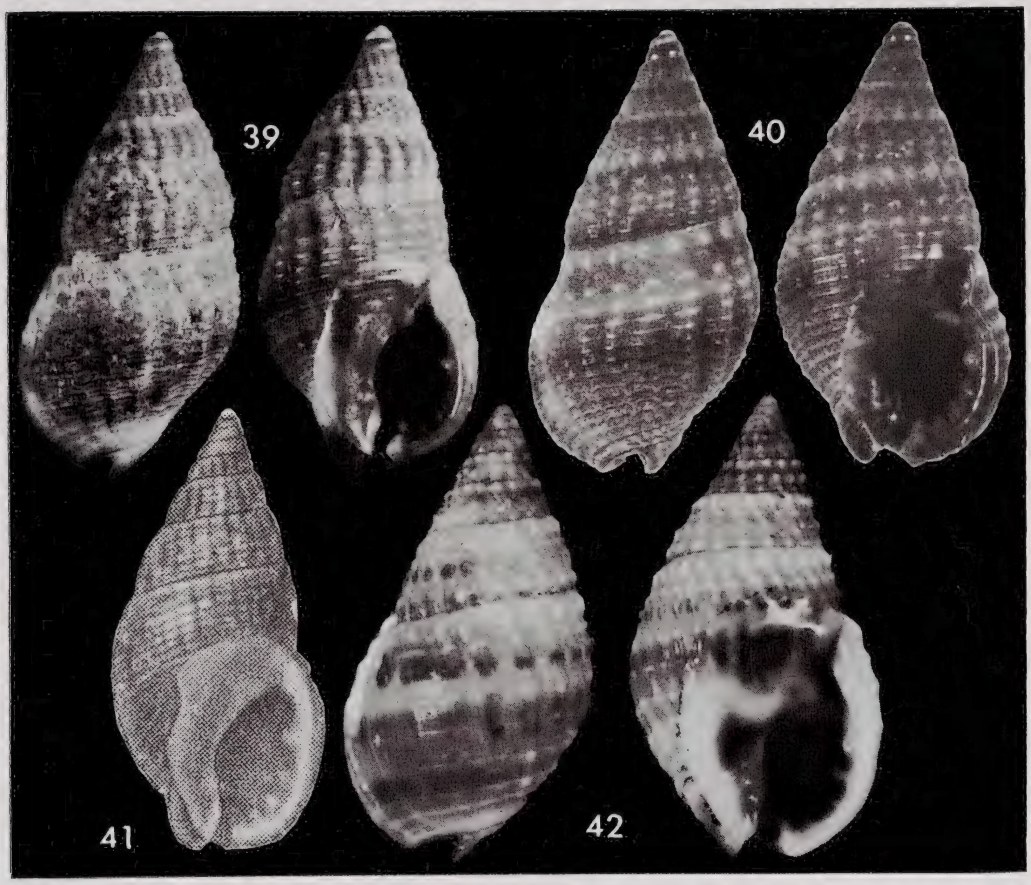
N. panamensis. Lectotype in MCZ No. 186283. Panama.

Nassarius moestus (Hinds, 1844) (Figs. 39-41)

1844. *Nassa moesta* Hinds, Zool. Voy. H.M.S. "Sulphur", Moll. Pt. 2: 36, pl. 9, figs. 18, 19; 1876 E. A. Smith, J. Linn. Soc. Lond. 12: 546 (San Christoval, Solomon Is).

1882. *Nassa (Zeuxis) moesta* Hinds, Tryon, Man. Conch. 4: 33, pl. 10, fig. 101 (in synonymy of *N. exilis* Powys, 1835).

1908. *Nassa tristis* Preston, Rec. Ind. Mus. Calcutta, 2 (2): 194, pl. 14, fig. 9
— [*non Nassarius moestus auct.*].



Figs. 39-42. 39-41. *Nassarius moestus* (Hinds). 39. Syntype BMNH No. 1844.9.23.3-4.; length 9.5 mm. 40. Specimen from Rabaul, New Britain; length 8.2 mm. 41. Type-figure of *N. tristis* (Preston); length 10.0 mm. 42. *N. brunneostomus* (Stearns), from Almejas Bay, L. California, Mexico; length 15.7 mm.

DISTRIBUTION. Tropical Indo-West Pacific.

TYPE SPECIMENS AND TYPE LOCALITIES

N. moesta. Two syntypes in the B.M.N.H. No. 1844.9.23.3-4.; illustrated syntype 9.5 × 4.7 × 4.3 mm. Shell with 3 golden-brown nuclear whorls with a dark brown streak, mature whorls violet-grey in colour, sutures pale, body whorl with a pale, narrow subsutural band, aperture and callus chocolate-brown, penultimate whorl with 16 axial ribs and body whorl with 16 ribs, sculptured with thin, overriding spiral striae, columella with 2 basal folds and a parietal denticle, outer lip with 5 prominent denticles. Gulf of Papagayo, W. coast of central America = error.

N. tristis. Type specimen in the Indian Museum, Calcutta; 10.0 × 4.25 mm. Andaman Is.

Dimensions of illustrated specimen of *N. moestus* from Rabaul, New Britain: 8.2 × 4.2 × 3.8 mm.

Hinds (1844) described *N. moestus* from the west coast of central America on the authority of the notoriously unreliable Capt. Belcher. E. A. Smith (1876) was the first author to cast doubt on the reliability of the west American locality when he stated: "There is another remarkable instance of wide geographical distribution, supposing both the above localities [Gulf of Papagayo and San Christoval, Solomon Is] to be correct. Of the identity of this specimen from the Solomon Islands with examples from central America there is not a shadow of doubt. It has been compared with typical examples of *moesta* received from Sir Edward Belcher and labelled in Hinds's handwriting, and in no respect differs from them." This is followed by a detailed description of the true *N. moestus.* Tryon (1882) erroneously synonymised *N. moestus* with *N. exilis,* and gave the localities of Fiji Is and Solomon Is on the authority of A. Garrett and J. Brazier, who personally collected the species (*N. moestus*) at these places.

Subsequent authors acknowledged *N. moestus* as of west American origin, but applied the taxon to a species of quite different appearance. It has been confused with the west American species subsequently described as *Nassa brunneostoma* Stearns, 1893, from the Gulf of California, and *N. leucops* Pilsbry & Lowe, 1932, from Kino Bay, Sonora, Mexico. Keen (1971) stated that the species is similar to *Nassarius complanatus* (Powys), but that it is proportionately wider, the last whorl is smooth near the aperture and the spreading callus varies from white to brown. The real *N. moestus* (Hinds), however, is a small, fusiform species (clearly indicated in Hinds's type figures, 1844, pl. 9, figs. 18, 19), with convex whorls, adpressed sutures and a quite distinct protoconch. The nuclear whorls consist of *c.* 3 golden-brown, glassy smooth whorls with a dark brown streak usually confined to the last nuclear whorl. The sculpture of *N. moestus* differs appreciably from that of *N. brunneostomus,* and consists of axial riblets which are bisected into laterally oriented nodules by very thin spiral threads; the interspaces of these threads have additional fine spiral hair-lines. On the body whorl, the nodules extend only to the start of the columellar callus while the fine spiral threads continue to the base. The coffee-brown callus is not spreading as in *N. brunneostomus* (Fig. 42), but is well-defined and distinctly bordered, and is frequently concavely indented on the left side as shown in the type-figure of *N. tristis* Preston (Fig. 41). The columella has only 1-2 basal folds and a parietal denticle and the outer lip 5 strong denticles. In colour the species varies from bluish-grey to violet-grey, the sutures are paler and a pale subsutural band frequently appears on the body whorl. *N. moestus* ranges in size from 6.0 to 10.0 mm, and never attains the size of *N. brunneostomus.*

The Indo-Pacific origin of *N. moestus* (Hinds) will necessitate the substitution of the "*N. moestus*" of authors by *N. brunneostomus* (Stearns, 1893), which is the next available taxon.

Nassarius gemmulosus (C. B. Adams, 1852) (Fig. 43)

1852. *Nassa gemmulosa* C. B. Adams, Ann. Lyc. Nat. Hist. New York, 5: 285; 1956 Turner, Occ. Pap. Moll. Harvard, 2 (20): 51, pl. 5, fig. 5 (figd. holotype).

1880. *Nassa decorata* Marrat, Var. shells gen. *Nassa,* p. 81; 1940 Tomlin, Proc. Malac. Soc. Lond. 24 (1): 36.

1941. *Nassa cara* Pilsbry & Olsson, Proc. Acad. Nat. Sci. Philad. 93: 30, pl. 6, figs. 1, 2 (Punta Blanca, Canoa form., Pliocene of W. Ecuador).

1958. *Nassarius gemmulosus* (C. B. Adams), Keen, Sea shells trop. W. America, p. 140, fig. 575; 1971 Keen, *ibid.* ed. 2: 606, fig. 1300.

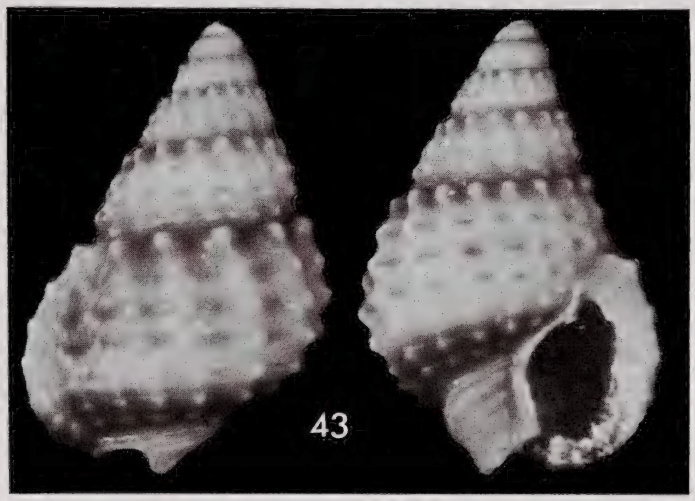


Fig. 43. *Nassarius gemmulosus* (C. B. Adams). Syntype of *N. decoratus* (Marrat), MCML; length 5.9 mm.

DISTRIBUTION. Mexico to Panama.

TYPE SPECIMENS AND TYPE LOCALITIES

N. gemmulosa. Holotype in MCZ No. 186392; 6.0 × 4.0 mm. Panama.

N. decorata. Two syntypes in MCML; illustrated syntype 5.9 × 4.0 × 3.0 mm. Shell with $3\frac{1}{2}$ mature whorls and 3 smooth nuclear whorls, off-white in colour, body whorl with a brown band at the suture and another towards the base, centre of body whorl with 3-4 spiral rows of short brown lines, penultimate whorl with 15 avial ribs and 3 spiral rows of spinose nodules, body whorl with 15 ribs and 7 rows of nodules, base of columella with 2-3 small denticles, outer lip with 5 denticles. Locality unknown.

Tomlin (1940) tentatively considered Marrat's minute syntypes of *N. decorata* to be diseased young specimens of the Indo-Pacific *Nassarius horridus* (Dunker). The syntypes of *N. decorata* are clearly not related to *Nassarius horridus* but are the West American *N. gemmulosus* (C. B. Adams).

Nassarius gayii (Kiener, 1834) (Figs. 44-49)

1834. *Buccinum gayii* Kiener, Spéc. gén. icon. coq. viv. 9: 71, pl. 21, fig. 79 (coast of Chile).

1841. *Nassa gayi* d'Orbigny, Voy. l'Amer. mérid. 5: 432; 1853 Reeve, Conch. Icon. 8: pl. 13, figs. 87a, b.

1850. *Nassa rubricata* Gould, Proc. Bost. Soc. Nat. Hist. 3: 155; 1852 Gould, U.S. Expl. Exp. 12: 265, pl. 19, figs. 332, 332a; 1964 Johnson, U.S. Nat. Mus. Bull. 239: 143.

1852. *Nassa (Tritia) gayii* Kiener, A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 112 (St. Helena = error).

1854. *Buccinum gayi* Kiener, Hupé in Gay, Hist. fis. & polit. Chile, Zool. 8: 205; 1858 Küster, Syst. Conch.-Cab. Mart. Chemn., ed. 2: 3 (1A): 27, pl. 6, figs. 16-18.

1881. *Nassa (?) taeniolata* Philippi, E. A. Smith, Proc. Zool. Soc. Lond. p. 30, pl. 4, fig. 8 (*spec. juv.*) [*? non Buccinum taeniolatum* Philippi, 1845]

1882. *Nassa (Tritia) gayi* Kiener, Tryon, Man. Conch. 4: 56, pl. 17, figs. 324, 325.

1906. *Nassa nevilliana* Preston, Proc. Malac. Soc. Lond. 7: 34, textfig.

1909. *Alectrion (Hima) gayii* Kiener, Dall, Proc. U.S. Nat. Mus. 37: 215.

1909. *Nassa flammulata* Preston, Ann. Mag. Nat. Hist. (8) 3: 512, pl. 10, fig. 13; 1915 Preston, J. Conch. 14 (11): 350.

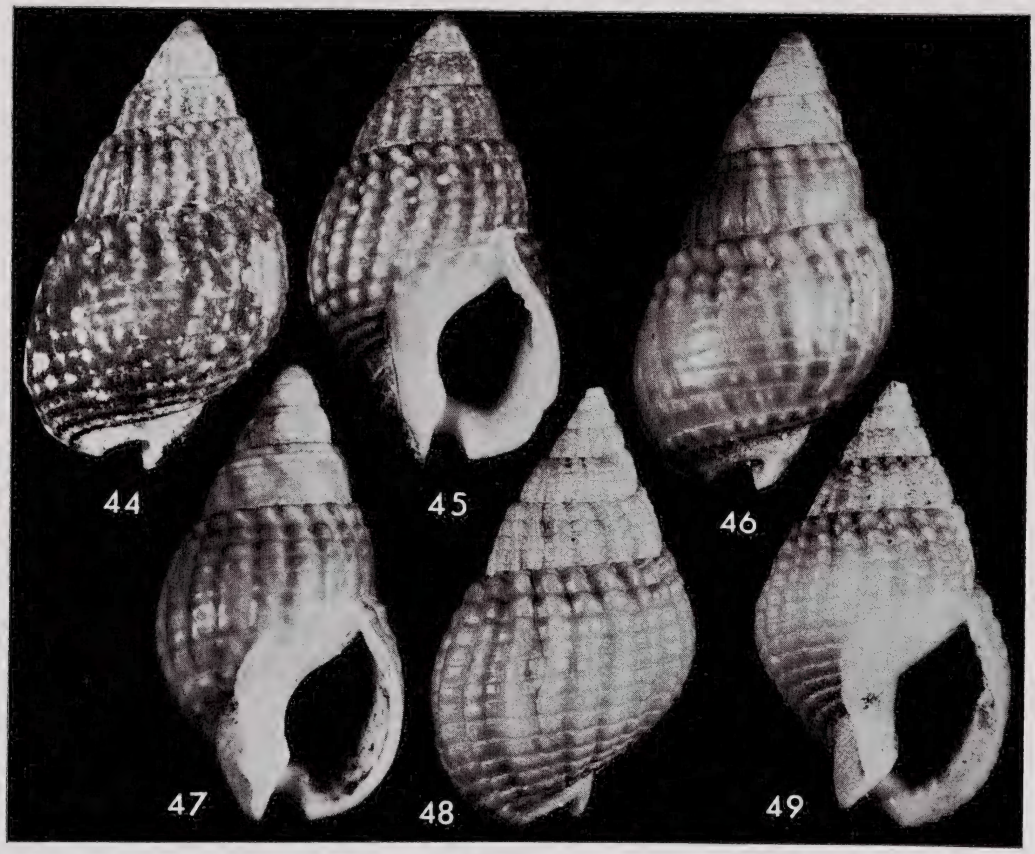
1917. *Alectrion rubricatus* Gould, Dall, Proc. U.S. Nat. Mus. 51: 576.

1917. *Alectrion gayii* Kiener, Dall, Proc. U.S. Nat. Mus. 51: 576.

1945. *Nassarius gayii* (Kiener), Strong in Burch, Min. Conch. Club Sth. Calif. No. 51: 5.

1951. *Alectryon (Hima) gayi* (Kiener), Carcelles & Williamson, Rev. Inst. Nac. Inv. Cienc. Nat. 2 (5): 300.

1969. *Nassarius gayi* (Kiener), Herm, Zitteliana, 2: 141, pl. 14, figs. 5-9; 1973 Marincovich, Nat. Hist. Mus. Los Angeles Cty. Sci. Bull. 16: 37, textfigs. 80, 81.



Figs 44-49. *Nassarius gayii* (Kiener). 44, 45. Holotype of *N. rubricatus* (Gould), USNM No. 5728; length 16.0 mm. 46, 47. Holotype of *N. flammulatus* (Preston), BMNH No. 1915.1.6.55.; length 13.3 mm. 48, 49. Holotype of *N. nevillianus* (Preston), BMNH No. 1906.4.17.2.; length 16.7 mm.

DISTRIBUTION. Peru to the west side of the Strait of Magellan, Sth. Chile.

TYPE SPECIMENS AND TYPE LOCALITIES

N. rubricata. Holotype in USNM No. 5728; 16.0 × 8.4 × 8.3 mm. Uniformly brown in colour, aperture white, penultimate whorl with 23 axial ribs and 5 spiral rows of nodules, body whorl with 22 ribs, 7 rows of nodules and 3 strong cords, base of columella with 3 folds, aperture denticulate. Pacific shore.

N. nevilliana. Holotype in B.M.N.H. No. 1906.4.17.2.; 16.7 × 9.0 × 9.0 mm. Uniformly tan in colour, slightly darker near sutures, penultimate whorl with 21 axial ribs and 4 spiral rows of nodules, base of columella with 2 folds, aperture denticulate. Ceylon ? = error.

N. flammulata. Holotype in B.M.N.H. No. 1915.1.6.55.; 13.3 × 7.0 × 6.6 mm. Uniformly brown in colour, aperture white, penultimate whorl with 15 axial ribs and 5 spiral rows of nodules, body whorl with 18 ribs and 10 spiral rows of nodules, axial sculpture absent on earlier whorls and obsolete on the body whorl towards the outer lip, base of columella with 4 folds, aperture denticulate. S. Peru.

When Preston (1906) described new species based on unlocalised specimens from Hugh Nevill's collection, he hazarded a guess that they originated from Ceylon. His *Bullia cinerea* is a juvenile specimen of the Australian *Nassarius dorsatus* (Röding), and *N. nevilianus* is not an Indo-Pacific species but is conspecific with *N. gayii* from the west coast of South America.

It seems very unlikely that the small (6.5 mm) *Buccinum nucleolus* Philippi, 1846, from Mazatlan, is a synonym of the considerably larger (16.5 mm) *Buccinum taeniolatum* Philippi, 1845, from Chonos I, Chile, as suggested by Keen (1971). The former species is always minute, white with a narrow reddish-brown band at the sutures and occasionally at the base of the body whorl, whereas *Nassarius taeniolatus* is considerably larger, brown in colour and regularly nodulose. The latter species closely resembles *N. gayii* and may prove to be a synonym.

Nassarius coppingeri (E. A. Smith, 1881) (Fig. 50)

1881. *Nassa (Tritia) coppingeri* E. A. Smith, Proc. Zool. Soc. Lond. p. 30, pl. 4, fig. 7; 1882 Tryon, Man. Conch. 4: 56, pl. 18, figs. 372; 1951 Carcelles & Williamson, Rev. Inst. Nac. Inv. Cienc. Nat. 2 (5): 299.

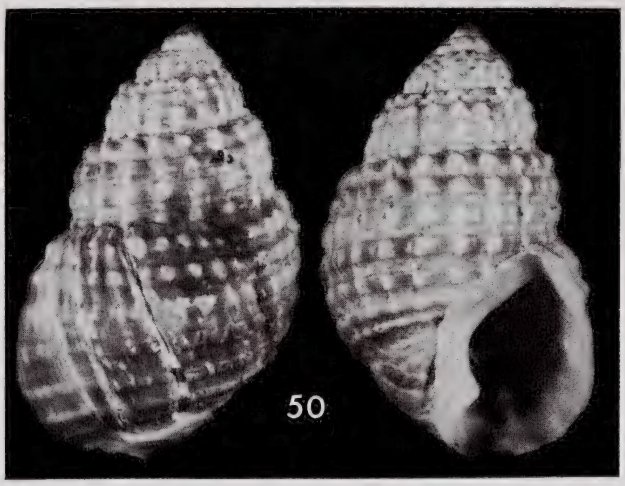


Fig. 50. Holotype of *Nassarius coppingeri* (E. A. Smith), BMNH No. 1879.10.15.17.; length 13.0 mm.

DISTRIBUTION. Southern Chile, Sth. America.

TYPE SPECIMEN AND TYPE LOCALITY

N. coppingeri. Holotype in B.M.N.H. No. 1879.10.15.17.; 13.0 × 8.1 × 7.0 mm. Creamy-fawn in colour, ornamented with ill-defined purplish-brown bands, some nodules occasionally white, penultimate whorl with 19 axial ribs and 4 spiral rows of flattish cords, body whorl with 25 ribs and 7 rows of cords, nodules almost quadrate, columella smooth, outer lip with 6 denticles. Tom Bay, in the neighbourhood of the island of Madre de Dios, west of Southern Patagonia, 1-30 fathoms (2-55 m) [= Tom Bay, near Madre de Dios Archipelago, Southern Chile].

The "*Nassarius coppingeri* E. A. Smith" of Forti (1969, pl. 8, fig. 9) and of Rios (1970, pl. 26, figure upper left) are not *N. coppingeri* as defined by the extant holotype. Rios' species from Brazil appears to be *N. scissuratus* (Dall, 1889) and Forti's species from the Holocene of Rio Grande do Sul is presumably the same. The Panamanian deep water species *Nassarius miser* (Dall, 1908) is so similar to *N. coppingeri* that a re-examination of Dall's holotype and comparison with *N. coppingeri* would be advisable.

Nassarius foveolatus (Dunker, 1847) (Figs. 51, 51a)

1847. *Buccinum foveolatum* Dunker, Zeit. f. Malakozool. 4: 63 (Oriental India); 1858 Kuester, Syst. Conch. Cab. Martini & Chemnitz, 3 (1A): 23, pl. 6, figs. 1-3.

1852. *Nassa planocostata* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 108; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (2): 96.

1853. *Nassa planicostata (sic)* A. Adams, Reeve, Conch. Icon. 8: pl. 12, figs. 76a, b.

1853. *Nassa foveolata* "Dunker MS", Reeve, Conch. Icon. 8: pl. 13, figs. 83a, b (Hab: ?); 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (2): 96.

1854. *Nassa labida* Reeve, Conch. Icon. 8: pl. 27, fig. 179 (Hab: ?); 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (2): 96.

1887. *Nassa foveolata* (Dunker), v. Martens, J. Linn. Soc. Lond. 21: 182 (King I, Mergui Archip.).

1928. *Nassarius (Zeuxis) foveolatus* (Dunker), Melvill, Proc. Malac. Soc. Lond. 18: 106 (Bombay, India).

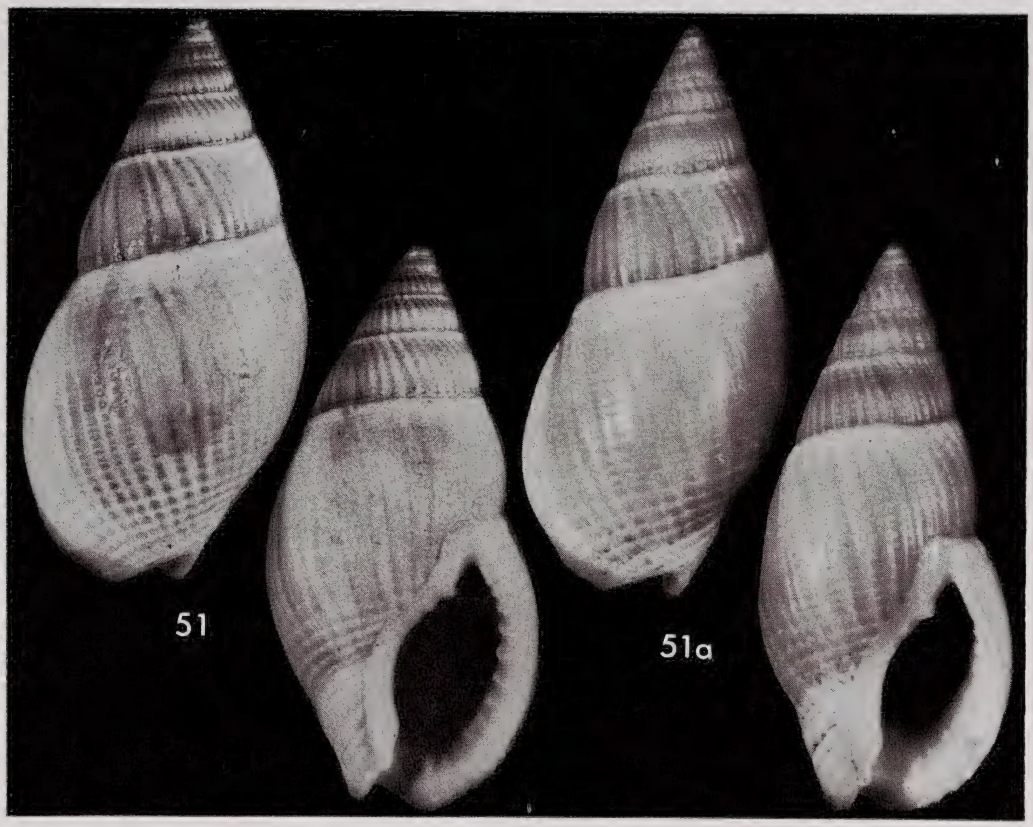
DISTRIBUTION. Indian Ocean.

TYPE SPECIMEN AND TYPE LOCALITY

N. planocostata. Three syntypes in B.M.N.H.; illustrated syntype 17.0 × 8.1 × 9.0 mm. Lead-grey in colour, spire whorls with a brownish sutural band, penultimate whorl with 32 axial ribs and body whorl with 31, very closely spirally striate, interstices of ribs appearing pitted, base of body whorl with 12 spiral cords, columella finely denticulate along its entire length, outer lip with 12 denticles. Payta, Peru [= Paita, Peru, = error].

The species has been erroneously reported from Peru and has been accepted as of Peruvian origin by all subsequent American authors. Tomlin (1932) cast some doubt on the species South American origin when he correctly synonymised *Nassa foveolata* Reeve with *Buccium foveolatum* Dunker, commented on the close similarity of *Nassa planocostata* A. Adams to *Buccinum foveolatum* and considered the type-figure of

Nassa labida to possibly represent *N. planocostata*. The syntypes of *N. planocostata* which are accompanied by a MS label "Karachi - Townsend", are undoubtedly conspecific with *Nassarius foveolatus* (Dunker) from the Indian Ocean. Recent examination of specimens of *N. foveolatus* from Madras, India (Zool. Survey India) enabled the writer to select a specimen which closely corresponds to Adams' syntype of *N. planocostatus* (Fig. 51A).



Figs. 51, 51a. *Nassarius foveolatus* (Dunker). 51. Syntype of *N. planocostatus* (A. Adams), BMNH; length 17.0 mm. 51a. Specimen from Madras, India; Zool. Surv. India No. M-18489/3, 15.8 × 7.0 × 8.0 mm.

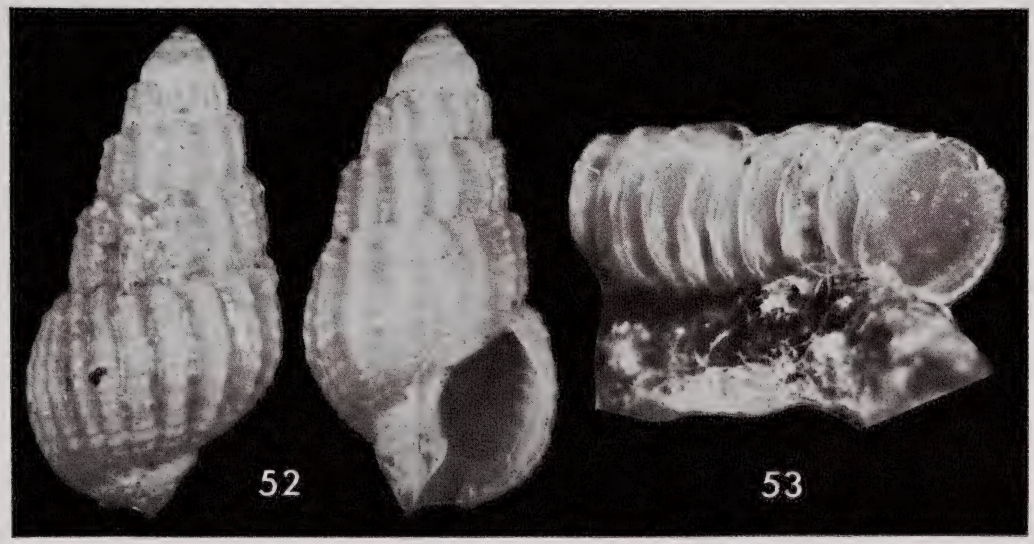
The species is leaden-grey in colour with a single brownish sutural band on the spire whorls and 1-2 rather faint bands on the body whorl. The spire whorls have a sutural row of small nodules, the penultimate whorl is sculptured with 27-35 slender and usually oblique axial ribs and 8-12 fine, close-set spiral striae and the body whorl with 26-36 axial ribs and 23-27 striae; the last 3-4 striae are usually granulose and the siphonal fasciole has 6-12 cords. The axial ribs and spiral striae produce small pits in the interstices at the point of intersection. The columella has 8-9 denticles, the outer lip 10-12 denticles, and the back of the outer lip is prominently variced. The "Peruvian" species illustrated by Keen (1971) as "*Nassarius planocostatus*" originated from the Lea collection (Nat. Mus. Nat. Hist., Washington), and bears a label with the erroneous locality of "West coast of S. America" (Dr. H. A. Rehder, *in litt.*)

Nassarius exsarcus (Dall, 1908) (Figs. 52, 53)

1908. *Alectrion (Tritia) exsarcus* Dall, Bull. Mus. Comp. Zool. Harvard, 42 (6): 308, pl. 11, fig. 12.

1917. *Alectrion exsarcus* Dall, Proc. U.S. Nat. Mus. 51: 576.

1945. *Nassarius exsarcus* (Dall), Strong in Burch, Min. Conch. Club. Sth. Calif. No. 51: 5; 1971 Keen, Sea shells trop. W. America, ed. 2: 606, textfig. 1297.



Figs. 52, 53. *Nassarius exsarcus* (Dall). 52. Holotype USNM No. 110565; length 9.0 mm. 53. Egg-capsules of *N. exsarcus* on gorgonian coral; height *c.* 1.6 mm.

DISTRIBUTION. Galápagos Is.

TYPE SPECIMEN AND TYPE LOCALITY

N. exsarcus. Holotype in USNM No. 110565; 9.0 × 4.7 mm. Brownish in colour, some axial ribs occasionally paler, penultimate whorl with 12 angulate axial ribs and body whorl with 16 ribs, spiral sculpture of overriding spiral threads, columella with 1 anterior fold, aperture plicate. "Albatross" Stat. 4642, near the Galápagos Is [= 5 miles (8 km) from S.E. end of Hood I] in 300 fathoms (549 m) at 48.6°F (9.2°C).

The type specimen is accompanied by a piece of gorgonian coral to which egg-capsules are attached. These egg-capsules were dredged together with the holotype of *N. exsarcus* and probably belong to this species (Dall, 1908) [Fig. 53].

Dall (1908, p. 308) recorded the species from 200 fathoms (366 m), but the label shows the depth to be 300 fathoms (549 m); this depth is confirmed by the data given for station 4642 (1908, p. 456).

Nassarius townsendi (Dall, 1890) (Fig. 54)

1890. *Nassa townsendi* Dall, Proc. U.S. Nat. Mus. 12: 326, pl. 12, fig. 9.

1917. *Alectrion townsendi* Dall, Proc. U.S. Nat. Mus. 51: 576.

1945. *Nassarius townsendi* Dall, Strong in Burch, Min. Conch. Club Sth. Calif. No. 51: 5; 1971 Keen, Sea shells trop. W. America, ed. 2: 609, textfig. 1313a.

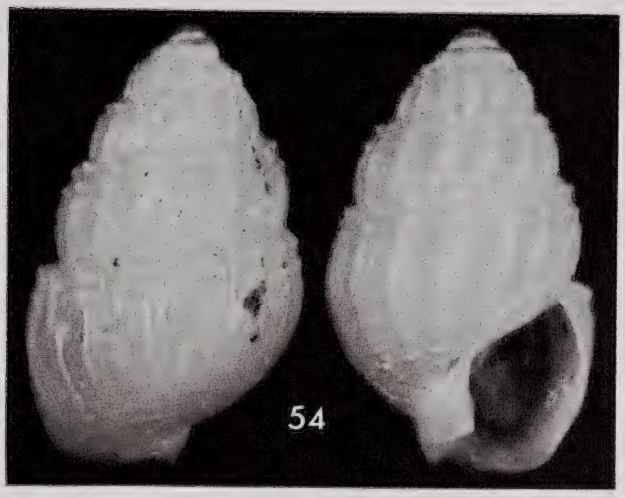


Fig. 54. Holotype of *Nassarius townsendi* (Dall), USNM No. 96473; length 10.2 mm.

DISTRIBUTION. Galápagos Is.

TYPE SPECIMEN AND TYPE LOCALITY

N. townsendi. Holotype in USNM No. 96473; 10.2 × 6.3 × 4.5 mm. Shining white in colour, penultimate and body whorl with 15 angulate axial ribs each, spire whorls with 2 spiral rows of slightly coronate nodules anterior to the sutures, interstices obsoletely striate, lower third of body whorl with spiral threads, columella and aperture smooth. Operculum yellowish-brown, smooth at the margin. Station 2807, near the Galápagos Is, 812 fathoms (1486 m), at 34.8°F 3.6°C).

N. townsendi is morphologically very similar to the Indo-Pacific deep-water species *N. babylonicus* (Watson, 1882), the type-species of the subgenus *Profundinassa* Thiele, 1929. Both species have a similar form, sculpture, colourless white shell, a depressed protoconch and an operculum with smooth margins.

Nassarius vibex (Say, 1822) (Figs. 55, 56)

1822. *Nassa vibex* Say, J. Acad. Nat. Sci. Philad. (1), 2: 231 (Shores of New Jersey); 1852 A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 101; 1890 Dall, Trans. Wagner Free Inst. Sci. 3 (1): 132.

1822. *Buccinum polygonatum* Lamarck, Hist. nat. anim. s. vert. 7: 278 (Hab: ?); 1834 Kiener, Spéc. gén. icon. coq. viv. 9: 92, pl. 29, fig. 119.

1843. *Nassa antillarum* d'Orbigny in Sagra, Hist. phys. polit. nat. l'ile Cuba, Moll. 2: 141, pl. 23, figs. 1-3.

1848. *Buccinum sturmii* Philippi, Zeit. f. Malakozool. 5: 135; 1849 Philippi, Abb. Beschr. Conchyl. 3: 41, pl. 1, fig. 1.

1848. *Buccinum antillarum* Philippi, Zeit. f. Malakozool. 5: 139; 1849 Philippi, Abb. Beschr. Conchyl. 3: 42, pl. 1, fig. 2 (described as a new species — *non* d'Orbigny in Sagra, 1843).

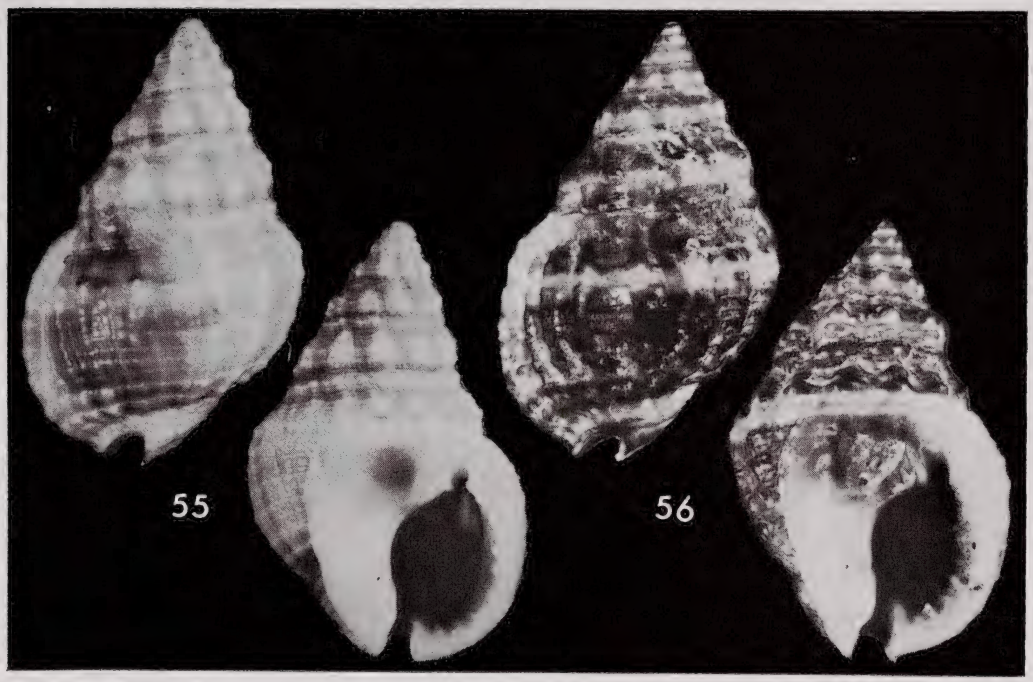
1853. *Nassa cinisculus* Reeve, Conch. Icon. 8: pl. 22, figs. 146a, b; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (2): 95.

1882. *Nassa (Phrontis) vibex* (Say), Tryon, Man. Conch. 4: 42, pl. 13, figs. 199-202, 205-207.
1869. *Nassa fretensis* Perkins, Proc. Bost. Soc. Nat. Hist. p. 117 (*fide* Dall, 1890 [Newhaven].

1948. *Uzita vibex* (Say), Gardner, U.S. Geol. Surv. Prof. Pap. 199-B: 253, pl. 30, fig. 23.

1953. *Nassarius (Phrontis) vibex* (Say), Olsson & Harbison, Acad. Nat. Sci. Philad. Mon. No. 8: 220, pl. 33, figs. 1, 1a.

1954. *Nassarius vibex* Say, Abbott, Americ. Seashells, p. 237, pl. 23, fig. Q; 1959 Nowell-Usticke, Check-list mar. shells St. Croix, p. 70; 1961 Warmke & Abbott, Caribbean Seashells, p. 118, pl. 21, fig. P; 1970 Vilas & Vilas, Florida mar. shells, ed. 2: 81, pl. 10, fig. 11; 1970 Rios, Coast. Brazil. Seashells, p. 94.



Figs. 55, 56. *Nassarius vibex* (Say). 55. Syntype of *N. antillarum* (d'Orbigny), BMNH No. 1854.10.4.36718; length 15.8 mm. 56. Syntype of *N. cinisculus* (Reeve), BMNH No. 19711; length 13.6 mm.

DISTRIBUTION. Boston, Massachusetts to Florida, the Caribbean and Brazil.

TYPE SPECIMENS AND TYPE LOCALITIES

N. antillarum d'Orbigny. Nine syntypes in the B.M.N.H. No. 1854.10.4.36718; illustrated syntype 15.8 × 9.8 × 9.0 mm. Off-white in colour, maculated with brown, 11 axial ribs on the penultimate and 13 on the body whorl, a nodulose sutural girdle, 2 rows of large nodules on whorls and additional spiral threads, columella with 8 irregular plicae, aperture with 11 denticles. Cuba, St. Lucia, Florida and St. Thomas. *N. cinisculus.* Three syntypes in B.M.N.H. No. 19711; illustrated syntype 13.6 × 8.6 × 9.0 mm; with 10 axial ribs on the penultimate and 11 on the body whorl, spiral cords coarse and nodulose, dark greenish-brown, banded with white. Island of St. Thomas [= Virgin Is, Caribbean].

Most authors have assigned *N. antillarum* d'Orbigny to the synonymy of *N. albus* (Say), however, Abbott (1958) queried whether *N. antillarum* is a form of *N. vibex* or *N. albus.* The "*Nassarius antillarum* (d'Orbigny)" of Olsson & Harbison (1953) is, however, *N. albus* (Say). The syntypes of *N. antillarum* are clearly conspecific with *N. vibex* (Say).

Nassarius capillaris (Watson, 1882) (Fig. 57)

1882. *Nassa (Hima) capillaris* Watson, J. Linn. Soc. Lond. 16: 369; 1886 Watson, Rept. Sci. Res. Voy. H.M.S. "Challenger", 15: 186, pl 11, fig. 7.

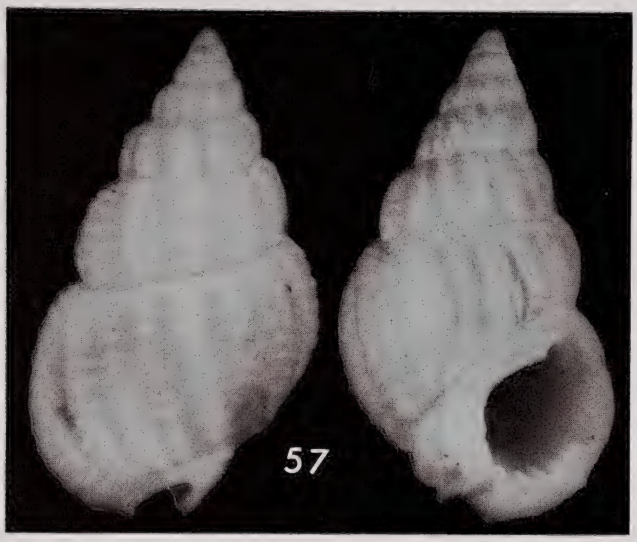


Fig. 57. Syntype of *Nassarius capillaris* (Watson), BMNH No. 1887.2.9.661-5; dorsal view 9.9 mm, ventral view 12.0 mm.

DISTRIBUTION. Recorded from Fernando de Noronha I, Brazil.

TYPE SPECIMEN AND TYPE LOCALITY

N. capillaris. Five syntypes in the B.M.N.H. No. 1887.2.9.661-5.; dorsal view of illustrated syntype 9.9 × 5.5 × 4.7 mm, ventral view of illustrated syntype 12.0 × 6.3 × 5.1 mm. White in colour, some specimens occasionally stained with orange-brown between axial ribs, penultimate whorl with *c.* 10 axial ribs and 7 spiral threads, body whorl with 14 ribs and 14 spiral threads, columella plicate, aperture lirate. Anchorage at Fernando Noronha I, Brazil, 3° 47′S and 32° 24′ 30″W, 25 fathoms (46 m).

This species undoubtedly belongs to the *albus-consensus* group of species, and according to Matthews in Rios (1970), is a synonym of *N. albus* (Say, 1826). *N. capillaris,* however, bears a very close resemblance to the *albus*-group of species from the Florida Pliocene, particularly *N. locklini* and *N. fargoi* Olsson & Harbison, 1953.

Nassarius simplex (E. A. Smith, 1880) (Fig. 58)

1880. *Nassa (Caesia) simplex* E. A. Smith, Ann. & Mag. Nat. Hist. (5), 6: 319; 1882 Tryon, Man. Conch. 4: 63 (undetermined species) [*non* S. V. Wood, 1872; *nec* Seguenza, 1880].

DISTRIBUTION. Recorded from Uruguay, Sth. America.

TYPE SPECIMEN AND TYPE LOCALITY

N. simplex. Three syntypes in the B.M.N.H. No. 1879.10.15.190-2.; illustrated syntype 12.4 × 7.5 × 5.3 mm. Light cream in colour, penultimate whorl with 16 axial ribs and 5 spiral rows of nodulose cords, body whorl with 16 ribs, 3 spiral rows of nodulose cords at the shoulder followed by 14 spiral cords, columella with 4 small plicae anteriorly and a parietal fold, aperture lirate. Off the mouth of the Rio de la Plata, Uruguay, 36° 47′ S and 55° 17′ W, in 28 fathoms (51 m).

Fig. 58. Syntype of *Nassarius simplex* (E. A. Smith), BMNH No. 1879.10.15.190-2; length 12.4 mm.

Two of the syntypes are immature specimens while the third syntype has been painted with a gold colour. *Nassa simplex* E. A. Smith, 1880, is a primary homonym of *Nassa reticosa* var. *simplex* S. V. Wood, 1872, from the Red Crag of Butley, Pliocene of England, and of *Nassa cuvieri* var. *simplex* Seguenza, 1880, a fossil from the Pliocene of Calabria. No substitute name is here proposed for *N. simplex* (Smith) since the species requires comparison with immature specimens of *N. miga* (Bruguière, 1789).

Nassarius sanctaehelenae (A. Adams, 1852) (Fig. 59)

1852. *Nassa sanctaehelenae* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 110; 1854 Reeve, Conch. Icon. 8: pl. 28, figs. 188a, b; 1890 E. A. Smith, Proc. Zool. Soc. Lond. p. 263.

DISTRIBUTION. St. Helena I, Atlantic Ocean.

TYPE SPECIMEN AND TYPE LOCALITY

N. sanctaehelenae. Holotype in the B.M.N.H. No. 19714; 10.0 × 5.8 × 5.0 mm. Dirty white in colour, ornamented with a faint, brown sutural band on the spire whorls and an interrupted central and basal band on the body whorl, 12 coarse axial ribs on the penultimate and 8 ribs on the body whorl, spiral cords at sutures and base produce flat nodules upon the ribs, columella with 6 plicae and a parietal fold, aperture plicate. St. Helena, 20 fathoms (37 m).

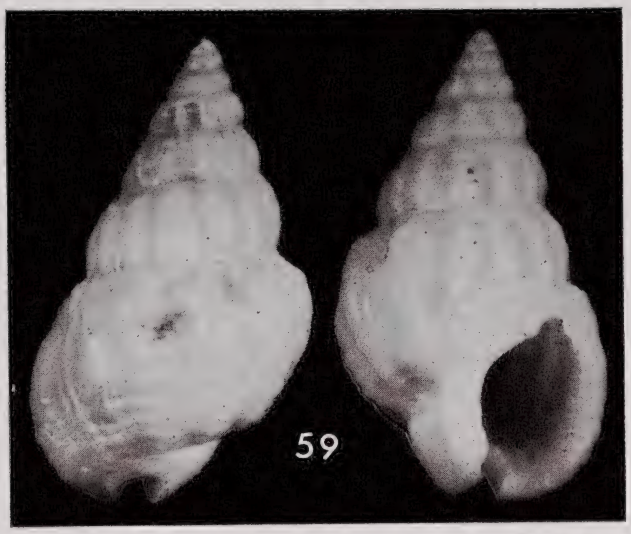


Fig. 59. Holotype of *Nassarius sanctaehelenae* (A. Adams), BMNH No. 19714; length 10.0 mm.

E. A. Smith (1890) provided a detailed description based on about 40 specimens from St. Helena. He remarked that the form and sculpture in this species are very variable, and disagreed with Jeffreys who associated the St. Helena species with *N. incrassatus* (Ström). Not only does *N. sanctaehelenae* lack the blackish-purple stain on the canal of *N. incrassatus,* but the columellar callus is quite distinct from *N. incrassatus,* being more expanded, distinctly orbicular above the parietal wall and well defined and bordered.

Nassarius cinctellus (A. Adams, 1852) (Fig. 60)

1852. *Nassa cinctella* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 110; 1854 Reeve, Conch. Icon. 8: pl. 26, fig. 176; 1890 E. A. Smith, Proc. Zool. Soc. Lond. p. 263 (*non* Gould, 1850).

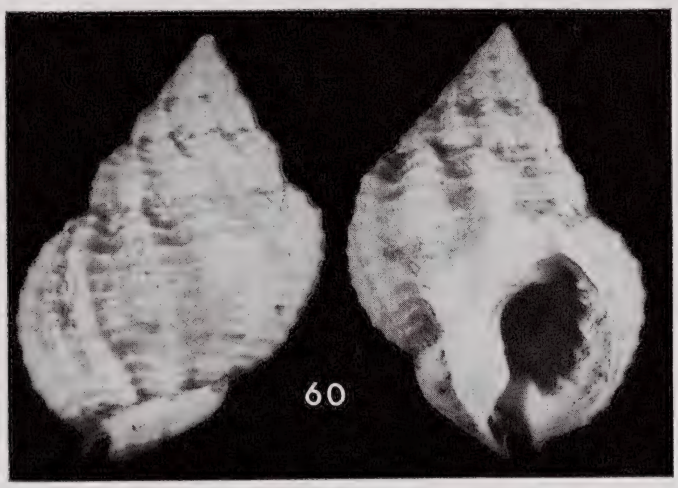


Fig. 60. Syntype of *Nassarius cinctellus* (A. Adams), BMNH No. 1972112; length 13.0 mm.

DISTRIBUTION. Reported from St. Helena, Atlantic Ocean.

TYPE SPECIMEN AND TYPE LOCALITY

N. cinctella A. Adams. Two syntypes in the B.M.N.H. No. 1972112; illustrated syntype 13.0 × 9.0 × 7.5 mm. Pale fawn in colour, callus white, penultimate whorl with 10 coarse axial ribs and 5 overriding spiral cords, body whorl with 8 ribs and 11 spiral cords, columella with 2 strong plicae anteriorly and a parietal fold, callus not sharply bordered, outer lip with 7 denticles. St. Helena, 20 fathoms (37 m).

E. A. Smith (1890) commented that the existing 2 syntypes were the only specimens known, and also considered the species to be similar to the Caribbean *N. ambiguus* (= *N. albus* Say). In appearance, however, the species seems to share features of form, conical spire, outer lip varix and sculpture with the West African *N. tritoniformis* (Kiener, 1841), except that the St. Helena species has broader axial ribs. *Nassa cinctella* A. Adams, 1852, is a primary homonym of the Indo-Pacific *Nassa cinctella* Gould, 1850. Further research on the identity and distribution of the St. Helena species is clearly indicated before a substitute name is proposed.

Nassarius pumilio (E. A. Smith, 1872) (Figs. 61-66)

1872. *Nassa pumilio* E. A. Smith, Proc. Zool. Soc. Lond. for 1871, p. 732, pl. 75, fig. 11.

1877. *Nassa minor* Marrat, Prop. new forms gen. *Nassa,* p. 14 (Kabenda = Cabinda, West Africa) [*non Buccinum asperulum* var. *minor* Grateloup, 1847 = *Nassarius*].

1882. *Nassa (Tritia) pumilio* E. A. Smith, Tryon, Man. Conch. 4: 57, pl. 17, fig. 333.

1882. *Nassa weyersi* Craven, Ann. Soc. Malac. Belg. 17: 16, pl. 2, fig.2.

1923. *Nassa (Hima) polignaci* Lamy, Congr. Soc. Sav. Paris for 1922, p. 33, textfig. (Portuguese Guinea, W. Africa).

1956. *Nassa madseni* Knudsen, Atlantide Rept. No. 4: 51, pl. 1, fig. 6 (Lagos, Nigeria).

DISTRIBUTION. Portuguese Guinea to Angola, West Africa.

Figs. 61-66. *Nassarius pumilio* (E. A. Smith). 61, 62. Syntypes BMNH No. 1870.1.12.34.; length 3.5 mm and 3.3 mm respectively. 63-65. Syntypes of *N. weyersi* (Craven), BMNH No. 1891.3.7.53-56; length 3.8 mm, 3.4 mm and 3.7 mm respectively. 66. Type-figure of *N. madseni* (Knudsen); length 3.9 mm.

TYPE SPECIMENS AND TYPE LOCALITIES

N. pumilio. Six syntypes in the B.M.N.H. No. 1870.1.12.34.; illustrated syntypes 3.5 × 2.1 mm and 3.3 × 2.0 mm. White, corneous and shining, faintly banded with brown, base of shell brownish, 11-12 axial ribs on the body whorl and 4-5 spiral threads on the penultimate whorl, columella with 2 basal folds, outer lip denticulate. Whydah, W. Africa [= Ouidah, Dahomey, W. Africa].

N. weyersi. Four syntypes in the B.M.N.H. No. 1891.3.7.53-6.; illustrated syntypes 3.8 × 1.9 mm, 3.7 × 1.8 mm and 3.4 × 1.7 mm.

This minute West African species is one of the smallest known species of *Nassarius*. The protoconch appears smooth in worn specimens but in well preserved individuals a faint keel close to the suture of the last nuclear whorl is visible under magnification. Although E. A. Smith (1872) described the species as three-banded, the bands are now very faint in the syntypes. The original type-figure of *N. pumilio* has not been very well executed and the nodules appear too prominent. In the 10 syntypes available for study, the spiral cords were either prominent, crossing the ribs and forming minute nodules, or weak and confined to the interspaces of the ribs. The brown banding is better preserved in *N. weyersi* than in *N. pumilio*. In the unique holotype of *N. madseni* (Knudsen), the spiral sculpture is weak and confined to the interspaces of the axial ribs. *N. pumilio* and *N. weyersi* appear to have been completely overlooked since they have received no mention in West African faunal lists.

Nassarius denticulatus (A. Adams, 1852) (Fig. 67)

1852. *Nassa denticulata* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 110; 1853 Reeve, Conch. Icon. 8: pl. 9, fig. 55; 1881 Monterosato, Bull. Soc. Malac. Ital. 6: 258; 1887 Kobelt, Icon. europ. Meeresconchyl. 1: 144, pl. 25, figs. 8, 9 and pl. 26, figs. 1-4; 1956 Knudsen, Bull. l'Inst. Franc. d'Afrique Noire, 18 (2): 517, pl. 2, figs. 5, 6; 1956 Knudsen, Atlantide Rept. No. 4: 48, pl. 2, fig. 2.

1876. *Nassa limata* var. *conferta* v. Martens, Jahrb. Deut. Malak. Gesell. 3: 239, pl. 9, fig. 3 (near Cape Verde Is, 23° 04′ W & 16° 40′ N, 47 fathoms (86 m); 1881 v. Martens, Conch. Mittheil. 2: 113, pl. 22, figs. 14-16.

1882. *Nassa (Hima) denticulata* A. Adams, Tryon, Man. Conch. 4: 47, pl. 15, fig. 254.

1968. *Hinia (Uzita) denticulata* (A. Adams), Nordsieck, Europ. Meeres-Gehäusesch. 1: 142, pl. 23, fig. 81.30.

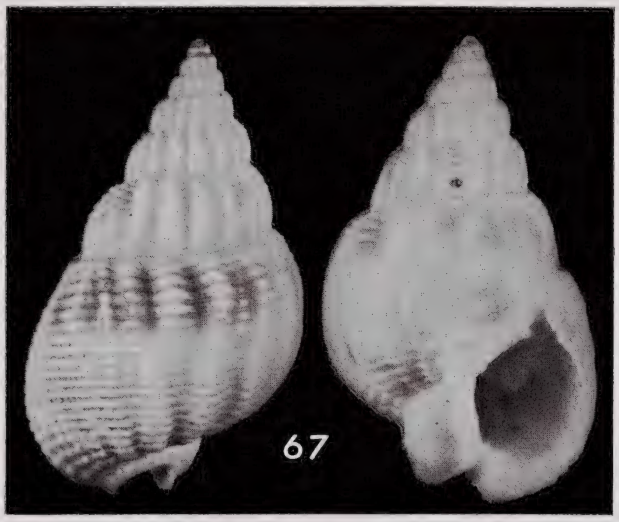


Fig 67. Syntype of *Nassarius denticulatus* (A. Adams), BMNH No. 197314; length 21.0 mm.

DISTRIBUTION. Morocco to the Canary Is, Madeira, Cape Verde Is and Angola; rarely in the Mediterranean.

TYPE SPECIMEN AND TYPE LOCALITY

N. denticulata. Two syntypes in the B.M.N.H. No. 197314; illustrated syntype 21.0 × 12.0 × 10.4 mm. Cream in colour with a brown interrupted band near the sutural area, sculptured with 13 axial ribs on the penultimate and 14 on the body whorl, and deeply incised spiral grooves which produce 9 narrow and slightly flattened spiral threads on the penultimate whorl, columella with 5 plicae anteriorly, aperture lirate. Locality unknown.

Nassarius vinctus (Marrat, 1877) (Figs. 68-73)

1853. *Nassa (Tritia) trifasciata* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 113 (*non Buccinum trifasciatum* Gmelin, 1791 = *Nassarius*).

1877. *Nassa vincta* Marrat, Prop. new forms gen. *Nassa,* p. 12; 1938 Tomlin, J. Conch. 21 (3): 83; 1940 Tomlin, Proc. Malac. Soc. Lond. 24 (1): 38.

1903. *Nassa analogica* Sowerby, Marine Inv. Sth. Africa, 2 (3): 219, pl. 4, fig. 3 (8th July 1903); 1906 E. A. Smith, Ann. Natal Govt. Mus. 1 (1): 36; 1959 Barnard, Ann. Sth. Afric. Mus. 45: 99, fig. 22a (radula).

1903. *Nassa trifasciata* A. Adams, Sowerby, Marine Inv. Sth. Africa, 2 (3): 228, pl. 4, fig. 2.

1903. *Nassa (Amycla) circumtexta* v. Martens, Wiss. Ergeb. deut. Tief.-Exp. "Valdivia", 7: 27, pl. 3, fig. 18 (Francis Bay, 80-100 m; Algoa Bay; Agulhas Bank, 116-117 m; Simons Bay, 70 m [18th December 1903].

1906. *Nassa circumtexta* Martens, E. A. Smith, Ann. Natal Govt. Mus. 1 (1): 36.

1928. *Nassarius circumtextus* (Martens) Tomlin, Ann. Sth. Afric. Mus. 25: 316.

1932. *Nassa aenigmatica* Turton, Mar. shells Pt. Alfred, p. 58, pl. 13, fig. 431 (Pt. Alfred, Sth. Africa).

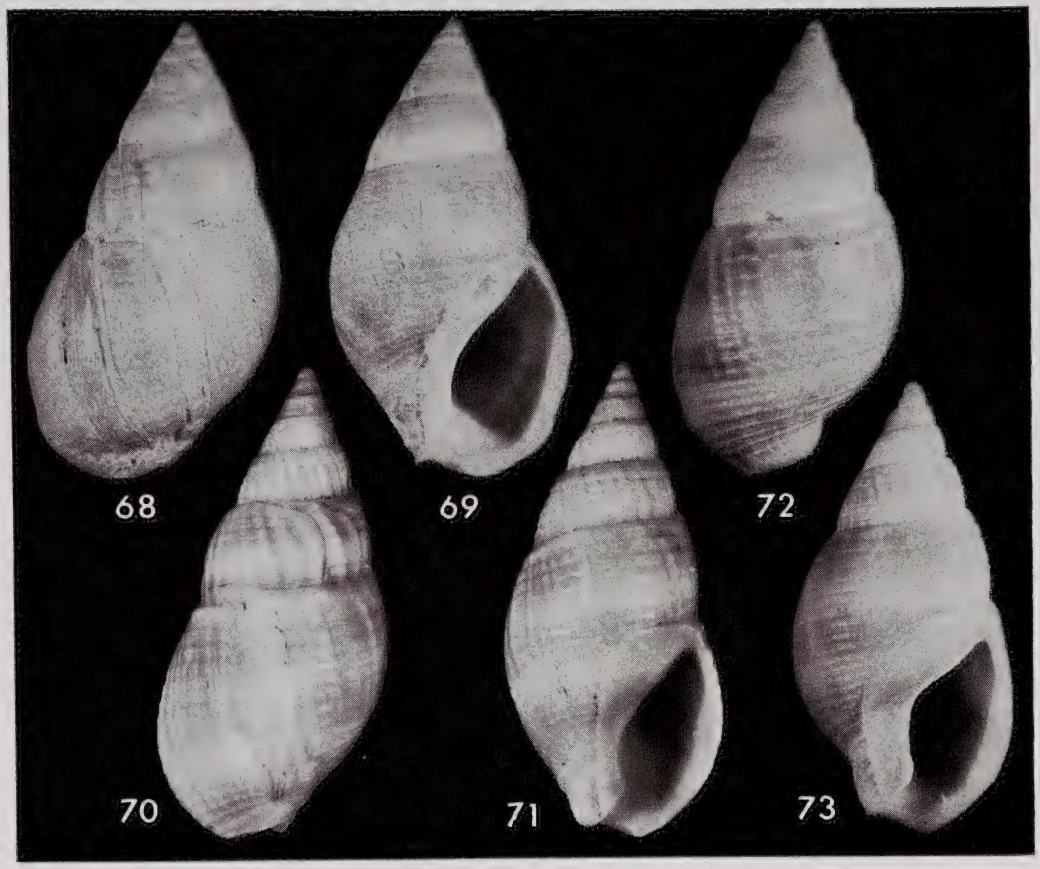
DISTRIBUTION. East London to Saldanha Bay, South Africa; also reported from West Africa.

TYPE SPECIMENS AND TYPE LOCALITIES

N. trifasciata. Three syntypes in the B.M.N.H.; illustrated syntype 18.3 × 9.0 × 9.8 mm. White in colour, with an orange-brown band on the penultimate and 3 bands on the body whorl, obsoletely axially ribbed, penultimate whorl with 7 flattish spiral cords and body whorl with 19 cords, anterior of columella with 1-2 folds, outer lip with 15 plicae. Vigo Bay [= Spain] = error.

N. vincta. Five syntypes in MCML; illustrated specimen (marked "lectotype", MS Dr. W. Adam), 16.8 × 8.0 × 8.3 mm. Whitish in colour, with 3 brown bands on the body whorl, obsoletely axially ribbed, 5 flattish cords on the penultimate and 16 on the body whorl, columella smooth, outer lip with 11 weak plicae. Locality unknown. *N. analogica.* Three syntypes in the B.M.N.H. No. 1903.7.27.77-79.; illustrated syntype 18.8 × 9.7 × 10.0 mm. Light orange-brown in colour with a faint white band and axial streaks, 6 flattish cords on the penultimate and 17 on the body whorl, columella with a basal denticle, outer lip smooth. Off Cape Infanta, Sth. Africa, 40 fathoms (73 m).

Tomlin (1928, 1932) and E. A. Smith (1906) correctly pointed out that Adams' locality "Vigo Bay" in Spain was an obvious error and that the type of *N. trifasciatus* (A. Adams) are the same species as *N. analogicus* (Sowerby) and *N. circumtextus* (v. Martens). When Tomlin (1938, 1940) examined the Marrat collection of Nassariidae in the Liverpool Museum (now the Merseyside County Museums, Liverpool), he discovered that the type-specimens of *N. vinctus* (Marrat) were conspecific with *N. trifasciatus, N. analogicus* and *N. circumtextus.*



Figs. 68-73. *Nassarius vinctus* (Marrat). 68, 69. Syntype of *N. analogicus* (Sowerby), BMNH No. 1903.7.27.77-79; length 18.8 mm. 70, 71. Syntype of *N. vinctus* (Marrat), MCML; length 16.8 mm. 72, 73. Syntype of *N. trifasciatus* (A Adams), BMNH; length 18.3 mm.

Dautzenberg (1913), Nickles (1950) and Buchanan (1954), however, applied the name *N. trifasciatus* (A. Adams) to the West African species *N. semistriatus* (Brocchi, 1814), while Knudsen (1956) placed *N. trifasciatus* in the synonymy of *N. semistriatus*. Examination of the syntypes of all species involved confirms their conspecifity and South African origin, and because of secondary homonymy of *N. trifasciatus* (A. Adams), *N. vinctus* (Marrat, 1877) is the appropriate name for the South African species.

Nassarius incrassatus (Ström, 1768) (Figs. 74, 75)

1768. *Buccinum incrassatum* Ström, K. Korske Vid. Selsk. Skrift. 4: 369.

1853. *Nassa delicata* Reeve, Conch. Icon. 8: pl. 24, fig. 163; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (2): 95 (*non* A. Adams, 1852).

1854. *Nassa tenella* Reeve, Conch. Icon. 8: Errata at end of Index (*nom. subst. pro N. delicata* Reeve, 1853).

1854. *Nassa rosacea* Reeve, Conch. Icon. 8: pl. 27, fig. 183; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (2): 97 (non *Planaxis rosacea* Risso, 1826 = *Buccinum incrassatum* Ström).

Figs. 74, 75. *Nassarius incrassatus* (Ström). 74. Syntype of *N. tenellus* (Reeve) and *N. delicatus* (Reeve), BMNH; length 12.2 mm. 75. Syntype of *N. rosaceus* (Reeve), BMNH; length 11.4 mm.

DISTRIBUTION. From Northern Norway to Madeira and the Mediterranean.

TYPE SPECIMENS AND TYPE LOCALITIES

N. tenellus. Two syntypes in the B.M.N.H.; illustrated syntype 12.2 × 6.3 × 5.1 mm. Casces Bay = [? Cascaes Bay, Portugal].

N. rosaceus. Three syntypes in the B.M.N.H.; illustrated syntype 11.4 × 6.4 mm.

Both of Reeve's species are the slender and the broad, pinkish forms of *N. incrassatus* and both have the typical dark purple stain on the back of the siphonal canal. *Nassa rosacea* Reeve, 1854, is a secondary homonym of *Planaxis rosacea* Risso, 1826, which also happens to be the pinkish form of *N. incrassatus*.

The genus-group name *Tritonella* A. Adams, 1852, is persistently used in recent literature despite its homonymy of *Tritonella* Swainson, 1839, in Amphibia. The correct subgeneric group for *N. incrassatus* (Ström) is *Hima* Leach in Gray, 1852, with its type-species *Buccinum minutum* Pennant, 1777 = *B. incrassatum* Ström, 1768, by the first valid subsequent designation by Marwick (1931). In the writer's opinion, *Hinia* Gray, 1847, is not consubgeneric with *Hima* Leach in Gray, 1852.

Nassarius antiquatus (Watson, 1897) (Fig. 76)

1897. *Nassa antiquata* Watson, J. Linn. Soc. Lond. 26: 241, pl. 19, fig. 10 (*non* Gabb, 1864).

1968. *Alectrion (Zeuxis) antiquatus* (Watson), Nordsieck, Europ. Meeres-Gehäusesch. 1: 144, pl. 23, fig. 81.63.

TYPE SPECIMEN AND TYPE LOCALITY

N. antiquata. Holotype in the B.M.N.H. No. 1911.7.17.4.; 13.0 × 6.0 × 5.4 mm. Whitish in colour, ornamented with orange spots and axial streaks, first 3 post-nuclear

whorls clathrate, 4th and penultimate whorl moderately smooth, body whorl with 12 flattish cords, all whorls with a deeply incised presutural groove which gives rise to a sutural girdle, columella with 2 folds anteriorly and a few small denticles, outer lip with 6 denticles. Funchal and Cabo Girao, Madeira.

Fig. 76. Holotype of *Nassarius antiquatus* (Watson), BMNH No. 1911.7.17.4.; length 13.0 mm.

Nordsieck (1968) considered *N. antiquatus* a valid biospecies, but in the present author's opinion it is conspecific with *N. semistriatus* (Brocchi, 1814), which is known living from the East Atlantic and West Africa. *Nassa antiquata* Watson, 1897, is in any case taxonomically not available, being a primary homonym of *Nassa antiquata* Gabb, 1864, from the California Eocene.

Nassarius brychia (Watson, 1882) (Fig. 77)

1880. *Nassa brychia* Watson, Marrat, Var. shells gen. *Nassa*, p. 52 (*nomen nudum*).

1882. *Nassa brychia* Watson, J. Linn. Soc. Lond. 16: 365.

1886. *Nassa (Tritia) brychia* Watson, Rept. Sci. Res. Voy. H.M.S. "Challenger", Zool. 15: 198, pl. 11, fig. 5.

TYPE SPECIMEN AND TYPE LOCALITY

N. brychia. Holotype in the B.M.N.H. No. 1887.2.9.671.; 16.6 × 9.2 × 8.3 mm. Dirty white in colour, some nodules appearing darker, sculptured with 17 axial ribs and 3 broad grooves on the penultimate and 20 ribs and 10 cords on the body whorl, columella smooth apart from a single basal fold, outer lip with 9 plicae. Off Gomera, Canary Is, 28° 03′ 15″N and 17° 27′W, 620 fathoms (1135 m).

The species has not been mentioned in East Atlantic faunal lists and does not appear to have been recognised since its description. It is superficially similar to *N. reticulatus* (Linnaeus), but the columellar callus in *N. brychia* is not spreading above the parietal wall but is small and well-defined.

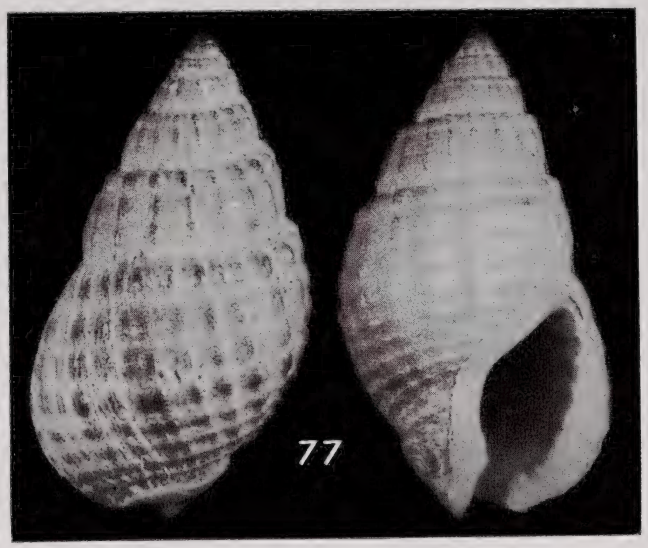


Fig. 77. Holotype of *Nassarius brychia* (Watson), BMNH No. 1887.2.9.671.; length 16.6 mm.

Nassarius cuvierii (Payraudeau, 1826) (Fig. 78)

— *Nassarius costulatus auct* (*non Buccinum costulatum* Brocchi, 1814).

1826. *Buccinum ferussaci* Payraudeau, Cat. Moll. Corse p. 162, pl. 8, figs. 15, 16.

1826. *Buccinum cuvierii* Payraudeau, Cat. Moll. Corse, p. 163, pl. 8, figs. 17, 18.

1836. *Buccinum variabile* Philippi, Enum. Moll. Siciliae 1: 221.

1852. *Nassa variabilis* Philippi, A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 103; 1853 Reeve, Conch. Icon. 8: pl. 19, figs. 129a, b.

1854. *Nassa maderensis* Reeve, Conch. Icon. 8: pl. 27, figs. 182a, b.

1882. *Nassa (Zeuxis) cuvieri* Payraudeau, Tryon, Man. Conch. 4: 32, pl. 10, figs. 92-97.

1890. *Nassa cuvieri* Payraudeau, Hidalgo, Mem. R. Acad. Cienc. Madrid 15 (2): 99; 1913 Melvill & Standen, Trans. R. Soc. Edinburgh 48 (18): 341.

1910. *Nassa ferussaci* Payraudeau, Dautzenberg, Act. Soc. Linn. Bordeaux 64: 54; 1947 Nicklés, Inst. Franc. d'Afrique Noire, p. 10.

1929. *Nassa (Telsca) cuvieri* Payraudeau, Thiele, Handb. syst. Weicht. 1: 325.

1943. *Hinia (Telasco) cuvieri* (Peyradeau) *(sic)*, Wenz, Handb. Palaeoz. 6 (6): 1236, fig. 3525.

1963. *Hinia (Telasco) ferussaci* Payraudeau, Glibert, Inst. R. Sci. Nat. Belg. Mém. 74: 114.

DISTRIBUTION. Mediterranean to the Cape Verde Is and N.W. Africa.

TYPE SPECIMEN AND TYPE LOCALITY

N. maderensis. Five syntypes in the B.M.N.H.; illustrated syntype 9.0 × 5.0 × 5.0 mm. Cream in colour, ornamented with small white spots and orange-brown spiral lines, early whorls with *c.* 10 angulate axial ribs, last $1\frac{1}{2}$ whorls only with spiral striae, columella with 2-3 folds anteriorly, outer lip with 8 denticles. Madeira.

Nassarius maderensis (Reeve) is the moderately smooth form of *N. cuvierii* (Payraudeau), which is the species frequently listed as "*Nassarius costulatus* (Renier, 1804)" in recent literature (Knudsen, 1956; Nordsieck, 1968). Renier's names, however, are taxonomically unavailable since his work "Tavola alfabetica delle Conchiglie Adriatiche, 1804" has been rejected for nomenclatorial purposes in Opinion 316 of the

I.C.Z.N. as from the 17th December 1954 (Hemming, 1958). Several authors have adopted the name *N. ferussaci* (Payraudeau, 1826) in preference to the conspecific *N. cuvierii* (Payraudeau, 1826) on the basis of page precedence. Page precedence, however, has been superseded by the first reviser rule (Art. 24 (a) of I.C.Z.N.), and Tryon (1882) appears to have been the first reviser who cited both taxa and selected *N. cuvierii* in preference to *N. ferussaci*. Although several authors have suggested that the fossil *N. costulatus* (Brocchi, 1814) is an earlier name for *N. cuvierii* (Payraudeau), Prof. W. Adam *(in litt.)* is of the opinion that *N. costulatus* (Brocchi) is a different species and conspecific with the subsequently named *N. italicus* (Mayer, 1876).

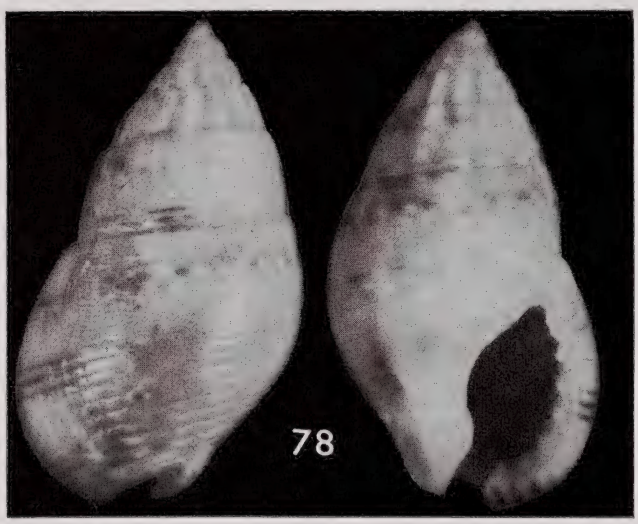


Fig. 78. *Nassarius cuvierii* (Payraudeau). 78. Syntype of *N. maderensis* (Reeve), BMNH; length 9.0 mm.

Nassarius tingitanus (Pallary, 1901) (Fig. 79)

1901. *Nassa tingitana* Pallary, J. Conchyl. 49 (3): 226; 1902 Pallary, J. Conchyl. 50 (1): 10, pl. 1, figs. 3, 4.

1943. *Hannonia tingitana* Pallary, Wenz, Handb. Paläozool. 6 (3): 1233, textfig. 3513; 1968 Nordsieck, Europ. Meeres-Gehäusesch. 1: 140, pl. 23, fig. 80.50.

DISTRIBUTION. East Atlantic to Spain and Morocco.

TYPE SPECIMEN AND TYPE LOCALITY

N. tingitana. One syntype in the B.M.N.H. No. 1906.4.17.18.; 10.0 × 3.8 × 2.9 mm. Light tan in colour, fusiform, aperture very short, sculptured with angulate axial ribs, penultimate whorl with 5 fine spiral grooves and body whorl with 7 grooves and 5 basal cords, columella smooth, outer lip denticulate. Tangier, Morocco, 12-21 metres.

N. tingitanus (Pallary) is the type-species of *Hannonia* Pallary, 1914, which, however, is a primary homonym of *Hannonia* Hoek, 1881, in Pantopoda. No substitute name is proposed as in our opinion *N. tingitanus* would be appropriately placed in the subgenus *Aciculina* A. Adams, 1853.

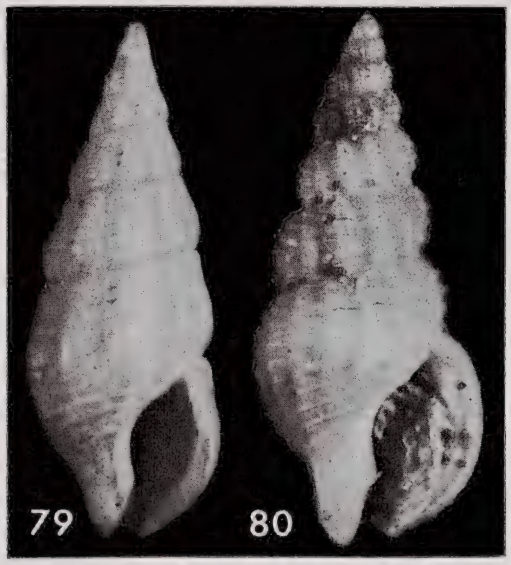
[Nassarius] vaucheri (Pallary, 1914) (Fig. 80)

1914. *Nassa (Hima) vaucheri* Pallary, Expl. Sci. Maroc, Miss. zool., Malac. 2: 35.

TYPE SPECIMEN AND TYPE LOCALITY

N. vaucheri. One syntype in the B.M.N.H. No. 1906.4.17.14.; 9.8 × 4.2 × 4.0 mm. Creamy-fawn in colour with a broad brown band on the lower half of the body whorl, spire brownish, sculptured with axial ribs and overriding spiral threads. Rabat, Morocco.

The writer has seen no mention of this species in nassariid literature, and suspects that *N. vaucheri* probably belongs to *Chauvetia* Monterosato, in the family Buccinidae.



Figs. 79, 80. 79. Syntype of *Nassarius tingitanus* (Pallary), BMNH No. 1906.4.17.18.; length 10.0 mm. 80. Syntype of [*Nassarius*] *vaucheri* (Pallary), BMNH No. 1906.4.17.14.; length 9.8 mm.

Nassarius clathratus (Born, 1778) (Fig. 81)

1778. *Buccinum clathratum* Born, Ind. rer. nat. mus. Caes. Vindob. Pt. 1: 225 (Hab: ?); 1880 Born, Test. Mus. Caes. Vindob. p. 261, pl. 9, figs. 17, 18.

1852. *Nassa turrita* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 110; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (1): 44 *(non* Borson, 1820).

DISTRIBUTION. Pliocene fossil in Europe; rarely living in the East Atlantic.

TYPE SPECIMEN AND TYPE LOCALITY

N. turrita. Three syntypes in the B.M.N.H.; illustrated syntype 30.3 × 17.8 × 13.4 mm. Uniformly cream in colour, apparently fossil, sculptured with 23 axial ribs and 8 spiral cords on ribs on the penultimate and 20 ribs and 16 cords on the body whorl, sutures with a flat ramp, shell thin for its size, columella with 2 basal folds and a parietal fold, outer lip with 14 plicae. Locality unknown.

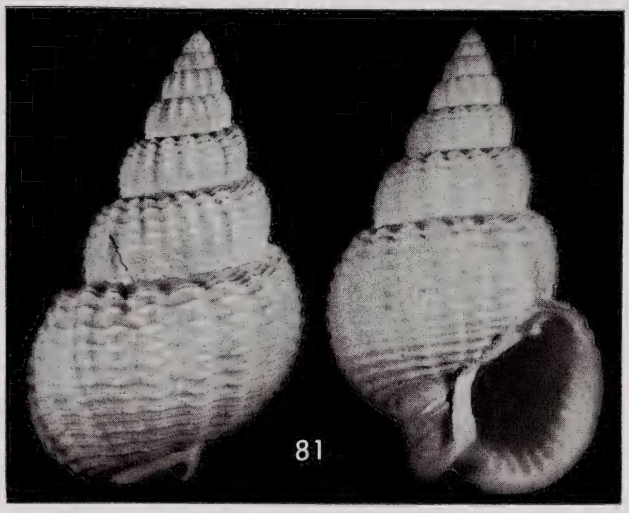


Fig. 81. *Nassarius clathratus* (Born). Syntype of *N. turritus* (A. Adams), BMNH; length 30.3 mm.

Recent authors have applied the taxon "*Nassa limata* Chemnitz" to a species similar to *Nassarius clathratus* (Born). Chemnitz's taxon is non-binomial and his work has been suppressed by the I.C.Z.N. for nomenclatorial purposes. The taxon *Nassa limata* has not been validated until 1844 by Deshayes (in Deshayes & Edwards, 1844), but *Buccinum lima* Dillwyn, 1817, has been proposed for the species illustrated in Chemnitz (1795, pl. 188, figs. 1808, 1809). The shell depicted by Chemnitz (*op. cit.*) came from the East Indies and according to that author's description is white, thin and transparent with pale brown bands and a somewhat expanded callus above the parietal wall. These features, combined with the locality "East Indies" and the doubtful occurrence of living specimens during the 19th century, would exclude *N. clathratus* (Born) or *"N. limatus auct."* from consideration. Lamarck (1822) actually considered Chemnitz's species to be a variety of *Phos senticosus* (Linnaeus).

Nassa turrita A. Adams, 1852, apart from being a synonym of *Nassarius clathratus* (Born), is also a primary homonym of *Nassa turrita* Borson, 1820, from the Italian Pliocene.

Nassarius plicatellus (A. Adams, 1852) (Figs. 82, 83)

1852. *Nassa nivea* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 110; 1853 Reeve, Conch. Icon. 8: pl. 18, figs. 122a, b; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (1): 43.

1852. *Nassa plicatella* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 111; 1853 Reeve, Conch. Icon. 8: pl. 9, figs. 56a, b; 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (1): 43; 1959 Barnard, Ann. Sth. Afric. Mus. 45: 114.

1884. *Nassa (Tritia) nivea* A. Adams, Tryon, Man. Conch. 4: 57, pl. 17, fig. 326.

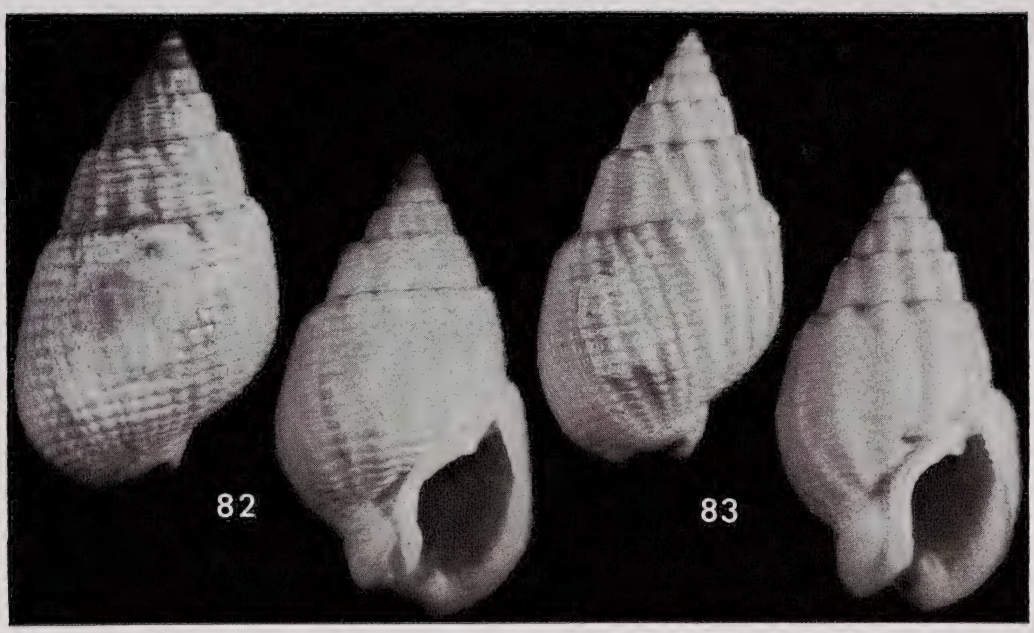
1884. *Nassa (Tritia) plicatella* A. Adams, Tryon, Man. Conch. 4: 58, pl. 17, fig. 335; 1913 Dautzenberg, Ann. l'Inst. Océanog. Monaco, 5: 32.

1903. *Nassa (Caesia) plicatella* A. Ad., v. Martens, Wiss. Erg. deut. Tief.-Exp. "Valdivia", 7: 9.

1923. ? *Nassa angolensis* Odhner, Goteb. K. Vet. Handl. 26: 14, pl. 1, figs. 6, 7 (Port Alexander, Angola, 16 fathoms (29 m)).

1928. *Nassarius plicatellus* (A. Adams), Tomlin, Ann. Sth. Afric. Mus. 25 (2): 323.

1928. *Nassa scopularcus* Barnard, Ann. Sth. Afric. Mus. 45: 120, fig. 24a (Sth. of Bogenfels, late Tertiary of S.W. Africa) [worn juvenile].



Figs. 82, 83. *Nassarius plicatellus* (A. Adams). 82. Syntype BMNH, length 24.4 mm. 83. Syntype of *N. niveus* (A. Adams), BMNH; length 23.3 mm.

DISTRIBUTION. Mossamedes, Angola, to Saldanha Bay, Sth. Africa.

TYPE SPECIMENS AND TYPE LOCALITIES

N. nivea. Three syntypes in the B.M.N.H.; illustrated syntype 23.3 × 12.9 × 11.5 mm. White in colour, sculptured with 13 axial ribs and 10 spiral cords on the penultimate and 18 ribs and 20 cords on the body whorl, columella with 2-3 plicae anteriorly and a parietal fold with 2 adjoining denticles, outer lip with 15 plicae. Batangas, island of Luzon, Philippines, 21 fathoms (38 m) = error.

N. plicatella. Two syntypes in the B.M.N.H.; illustrated syntype 24.4 × 13.7 × 11.8 mm. Creamy-white in colour, early whorls brownish, sculptured with 14 axial ribs and 8 overriding spiral cords on the penultimate and 11 ribs and 20 cords on the body whorl, axial ribs indistinct on back of dorsum, columella with a basal and a parietal fold with 2 adjoining denticles, outer lip with 13 plicae. Wallwich Bay, Africa [= Walvis Bay, S.W. Africa].

Tomlin (1932) correctly pointed out that the Philippine locality for *N. nivea* A. Adams, 1852, was erroneous and that the species was conspecific with *N. plicatella* A. Adams, 1852. Both these taxa were published simultaneously in the same publication by A. Adams (1852), but Tomlin failed to act as a first reviser by not selecting a valid name in preference to the other (Art. 24 (a) of the Code of I.C.Z.N.). In view of the sustained usage and correct locality indication, *Nassarius plicatellus* (A. Adams, 1852) is here adopted as the valid taxon, provided it is not a primary homonym. Sherborn (1929, p. 5042) listed a prior "*Nassa plicatella* G. v. Muenster, 1835, N. Jahrb. f. Min., p. 450", but Sherborn (1933) in his Index of trivial names under genera listed a "*Nassa plicatula*" which is not contained in his Main Index, and omitted any mention of *N. plicatella.* Muenster's work is not available to the writer and it cannot be therefore ascertained by him whether Muenster described a *Nassa plicatella* or *Nassa plicatula.*

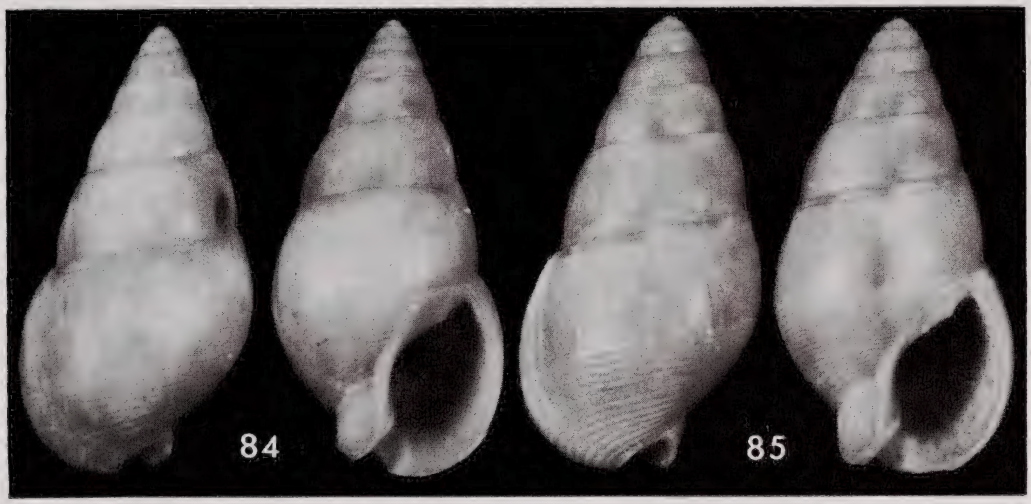
Nassarius sesarma (Marrat, 1877) (Figs. 84, 85)

1877. *Nassa sesarma* Marrat, Prop. new forms gen. *Nassa*, p. 13, pl. 1, fig. 14.

TYPE SPECIMEN AND TYPE LOCALITY

N. sesarma. Two syntypes in the MCML; illustrated larger syntype 13.0. × 6.7 × 6.0 mm, smaller syntype 10.0 × 5.5 × 5.0 mm. Pale grey in colour with brownish spots especially at the sutures and a few white spots on the body whorl, columella stained brown, shell with 4 mature and 3 nuclear whorls, first post-nuclear whorl with 7 spiral rows of minute pits, next 2 whorls with 2-3 sutural threads, body whorl with *c.* 29 close-set, fine spiral striae, columella with a basal fold and adjoining denticle, outer lip with 14-15 fine denticles. Whydah [= Ouidah, Dahomey, W. Africa].

N. sesarma is not at all conspecific with *N. marratii* (E. A. Smith, 1876) [= *N. gaudiosus* Hinds, 1844] from the Solomon Islands as suggested by Tomlin (1940). Marrat's West African locality is correct and *N. sesarma* is considered to be a valid species (Prof. W. Adam, *in litt.*).



Figs. 84, 85. Syntypes of *Nassarius sesarma* (Marrat); length 13.0 mm and 10.0 mm respectively.

Genus **Demoulia** Gray, 1838

Demoulia Gray, 1838, Ann. Mag. Nat. Hist. (1), 1: 29. Type species by SD (Herrmannsen, 1847) *Buccinum retusum* Lamarck, 1822 = *Nassa ventricosa* Lamarck, 1816. Recent, Sth. Africa.

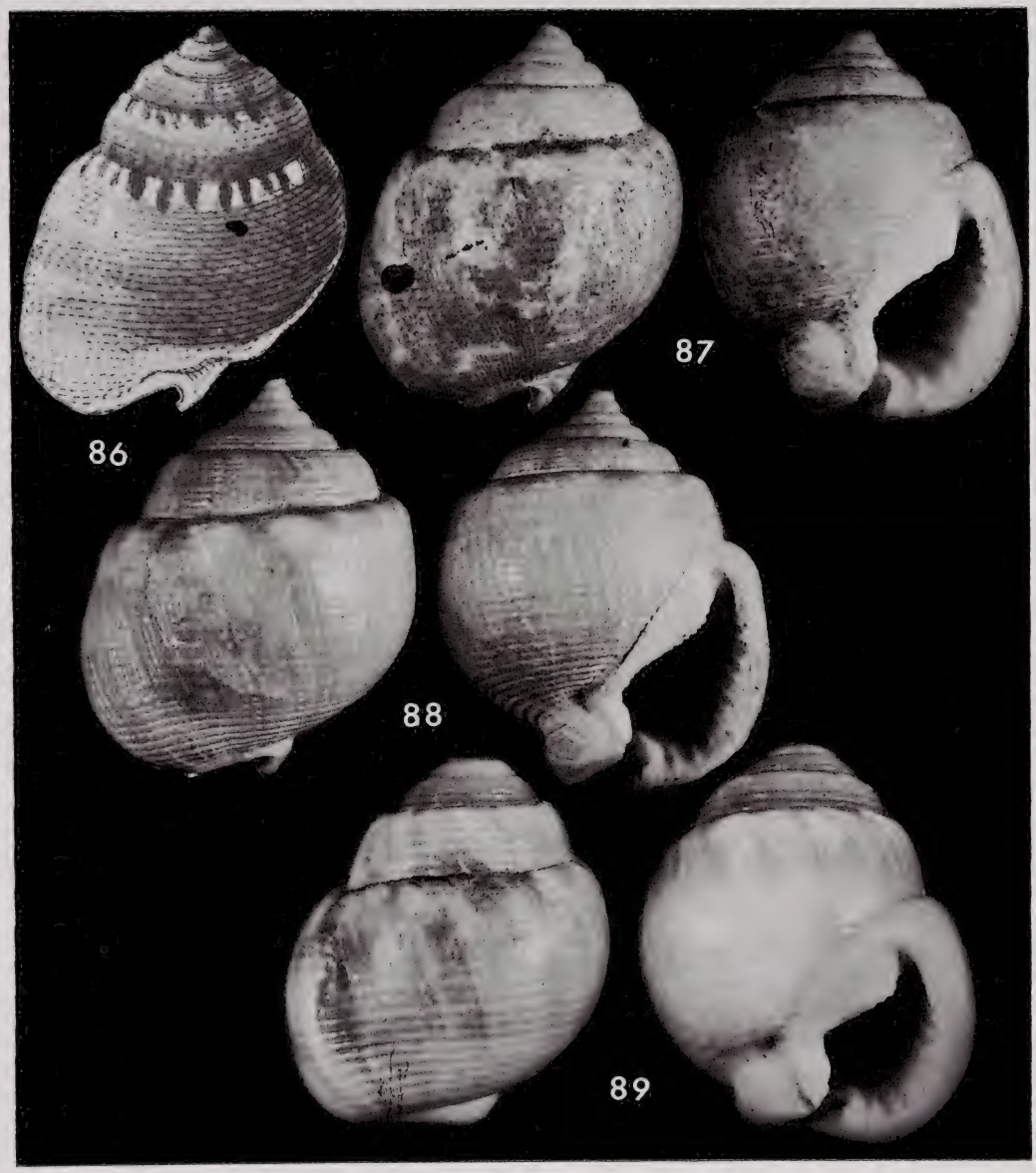
1847. *Desmoulea* Gray, Proc. Zool. Soc. Lond. p. 140 (invalid emend.).

1851. *Desmoulinsia* Woodward, Man. Moll. p. 112 (invalid emend.).

1856. *Streptorhega* Bronn, Lethaea Geognostica, 3 (6): 563 (*nom. subst. pro Demoulea* or *Desmoulea* Gray, 1847).

1874. *Moulinsia* Tournouer, J. Conchyl. 22: 295 (*nom. subst. pro Desmoulea* Gray, 1847) [*non* Grateloup, 1840].

DISTRIBUTION. Species of *Demoulia* do not live in the tropical Indo-Pacific or Japan and are confined to West and South Africa.



Figs. 86-89. *Demoulia obtusata* (Link). 86. Type-figure from Chemnitz, 1788, vol. 10, pl. 153, fig. 1466. 87. Holotype of *D. pulchra* Gray, BMNH; length 19.3 mm. 88. Syntype of *D. pinguis* (A. Adams), BMNH; length 22.0 mm. 89. Holotype of *D. crassa* (A. Adams) and *D. ponderosa* (Reeve), BMNH No. 197328; length 22.4 mm.

Demoulia obtusata (Link, 1807) (Figs. 86-89)

1788. *"Buccinum cassideum abbreviatum varietates"* Chemnitz, Syst. Conch.-Cab. 10: 194, 195, pl. 153, fig. 1466 (West Indian Seas = error) [*non binom.*].

1807. *Buccinum obtusatum* Link, Beschr. Nat.-Samml. Univ. Rostock, 3rd Abth.: 126 (refers to Chemnitz, *op. cit.*, fig. 1466); 1936 Tomlin & Winkworth, Proc. Malac. Soc. Lond. 22 (1): 40.

1838. *Demoulia pulchra* Gray, Ann. Mag. Nat. Hist. (1), 1: 29; 1891 E. A. Smith, Ann. Mag. Nat. Hist. (6), 8: 322.

1853 *Desmoulea pinguis* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 113; 1858 H. & A. Adams, Gen. rec. Moll. 3: pl. 12, figs. 6, 6a; 1882 Kobelt, Jahrb. deut. Malak. Gesell. 9 (1): 29; 1884 Tryon, Man. Conch. 4: 65, pl. 18, figs. 362-364.

1853. *Desmoulea crassa* A. Adams, Proc. Zool. Soc. Lond. for 1851, Pt. 19: 113; 1882 Kobelt, Jahrb. deut. Malak. Gesell. 9 (1): 29.

1854. *Nassa pinguis* A. Adams, Reeve, Conch. Icon. 8: pl. 29, figs. 193a, b; 1956 Knudsen, Atlantide Rept. No. 4: 55.

1854. *Nassa ponderosa* Reeve, Conch. Icon. 8: pl. 29, fig. 196 (*nom. subst. pro Desmoulea crassa* A. Adams, 1853); 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (2): 96.

1882. *Desmoulea pulchra* Gray, Kobelt, Jahrb. deut. Malak. Gesell. 9 (1): 29.

1913. *Desmoulinsia pinguis* (A. Adams), Dautzenberg, Ann. l'Inst. Océanog. Monaco, 5: 33.

1929. *Nassa (Desmoulea) pinguis* A. Adams, Thiele, Handb. syst. Weicht. 1: 323, textfig. 366 (radula); 1932 Tomlin, Proc. Malac. Soc. Lond. 20 (1): 43; 1950 Nicklés, Man. Ouest-Afric. 2: 105, fig. 183.

DISTRIBUTION. Morocco to Gold Coast, West Africa.

TYPE SPECIMENS AND TYPE LOCALITIES

D. pulchra. Holotype in the B.M.N.H.; 19.3 × 15.4 × 12.9 mm. Sierra Leone, W. Africa.

D. pinguis. Three syntypes in the B.M.N.H. (2 of these juvenile); illustrated adult syntype 22.0 × 18.0 × 14.7 mm. Senegal [= W. Africa].
D. crassa and *D. ponderosa.* Holotype in the B.M.N.H. No. 197328; 22.4 × 18.0 × 14.5 mm. Japan = error.

E. A. Smith (1891) who had the opportunity to compare the type-specimens of *D. pulchra, D. pinguis, D. crassa* and *D. ponderosa,* arrived at the conclusion that all these "species" were conspecific and that the species should be known as *D. pulchra* Gray, 1838. Tomlin (1932), who also worked with the actual types, also pronounced *D. pinguis* as conspecific with *D. pulchra.* Despite Gray's (1838) good locality and description, his taxon has been ignored after 1932, and the species is listed as *D. pinguis* A. Adams, in West African faunal lists.

Similarly *Buccinum obtusatum* Link, 1807, based on a good figure and excellent description in Chemnitz (1788), has been overlooked as a prior name for the species under discussion. Chemnitz (*op. cit.*) described all the then known species of *Demoulia,* i.e. *D. abbreviata* (Gmelin, 1791), *D. ventricosa* (Lamarck, 1816) and the species represented in his fig. 1466 which is the *D. obtusata* (Link, 1807). When Chemnitz (*op. cit.*) compared the species illustrated in fig. 1466 (= *obtusata*) with fig. 1465 (= *ventricosa*), he appended the following description of *D. obtusata*:

> "It is smaller yet fresher, prettier and rarer than the preceding species [*abbreviata* and *ventricosa*]. It is also encircled by spiral striae, but these are so delicate and fine that they can be hardly seen with the naked eye. The surface is therefore almost smooth and shining. The base colour of the body whorl is white, but is mostly covered by a large yellowish blotch, like by a cloud. The upper, rounded, step-like decreasing 6 whorls have a darker greyish-yellow colour and terminate in a blue point. A colourful white, yellow-spotted band encircles the sutures of the whorls. The outer thickened lip is inside full of teeth. The inner white lip has at the upper part a swollen pad, the purpose and benefit of which is unknown to me, but is present in one and all members of the genus. The interior walls are white. This snail, like the preceding, lives in the West Indian Seas." [Free translation].

The species *D. obtusata* is easily recognised by its solid globular shape, swollen and plicate parietal wall and the recurved base of the columella. The shell is cream in colour and ornamented with clouded brown zones and axial flames and usually with a whitish, yellowish-brown spotted band at the sutures. The sculpture consists of numerous spiral threads and axial growth-lines, and the periostracum is brown. The holotype of *D. crassa* is a worn and more coarsely sculpture variant of *D. obtusata.*

Chemnitz's description does not match any of the other 2 living species and 1 subspecies of *Demoulia* in either sculpture, shape or colouring. *D. abbreviata* from South Africa is so distinct that it does not require further comparison, while the South African *D. ventricosa ventricosa* (Lamarck, 1816) and its subspecies *D. ventricosa nataliae* Kilburn, 1972, differ prominently in shape and lack the spotted sutural girdle which was not omitted from Chemnitz's description. *Buccinum obtusatum* Link, does not qualify as a *nomen oblitum* since it has been discussed in literature by Tomlin & Winkworth (1936), who erroneously questioned its synonymy with *Nassarius mutabilis* (Linnaeus).

Genus **Cyllene** Gray in Griffith & Pidgeon, 1834

Cyllene Gray in Griffith & Pidgeon, 1834, Anim. Kingd. Cuvier, Moll. Rad. 12: 597. Type species by monotypy *C. owenii* Gray in Griffith & Pidgeon, 1834.

1924. *Radulphus* Iredale, Proc. Linn. Soc. N.S.W. 49 (3): 270. Type species by monotypy *R. royanus* Iredale, 1924.

Species of *Cyllene* live only in the tropical Indo-West Pacific and West Africa. They are easily separated from the superficially similar buccinid genera *Phos* and *Cominella* by the presence of a sutural groove above the outer lip as in the Olividae, and the prominent columellar callus which bears oblique plications.

Cyllene owenii (Gray in Griffith & Pidgeon, 1834 (Figs. 90, 91)

1834. *Cyllene owenii* Gray in Griffith & Pidgeon, Anim. Kingd. Cuvier, Moll. Rad. 12: 597, pl. 41, fig. 2; 1851 A. Adams, Proc. Zool. Soc. Lond. for 1850, Pt. 18: 205; 1853 Petit de la Saussaye, J. Conchyl. 4: 146; 1872 E. A. Smith, Proc. Zool. Soc. Lond. for 1871, p. 732.

1853. *Cyllene senegalensis* Petit de la Saussaye, J. Conchyl. 3: 145, pl. 5, fig. 5 (west coast of Africa); 1875 P. Fischer, J. Conchyl. 23: 278; 1913 Dautzenberg, Ann. l'Inst. Océanog. Monaco, 5: 29; 1927 Dautzenberg, Faune Colon. Franc. 1: 489; 1947 Nicklés, Inst. Franc. d'Afric. Noire, 1: 11; 1956 Knudsen, Atlantide Rept. No. 4: 59, pl. 3, fig. 8.

1859. *Cyllene oweni* Gray, Sowerby, Thes. Conchyl. 3: 78, pl. 217, figs. 19, 20; 1875 P. Fischer, J. Conchyl. 23: 278; 1877 Kobelt, Jahrb. deut. Malak. Gesell. 4: 298; 1881 Tryon, Man. Conch. 3: 224, pl. 84, figs. 564, 566.

DISTRIBUTION. Senegal to the Congo, West Africa.

TYPE SPECIMEN AND TYPE LOCALITY

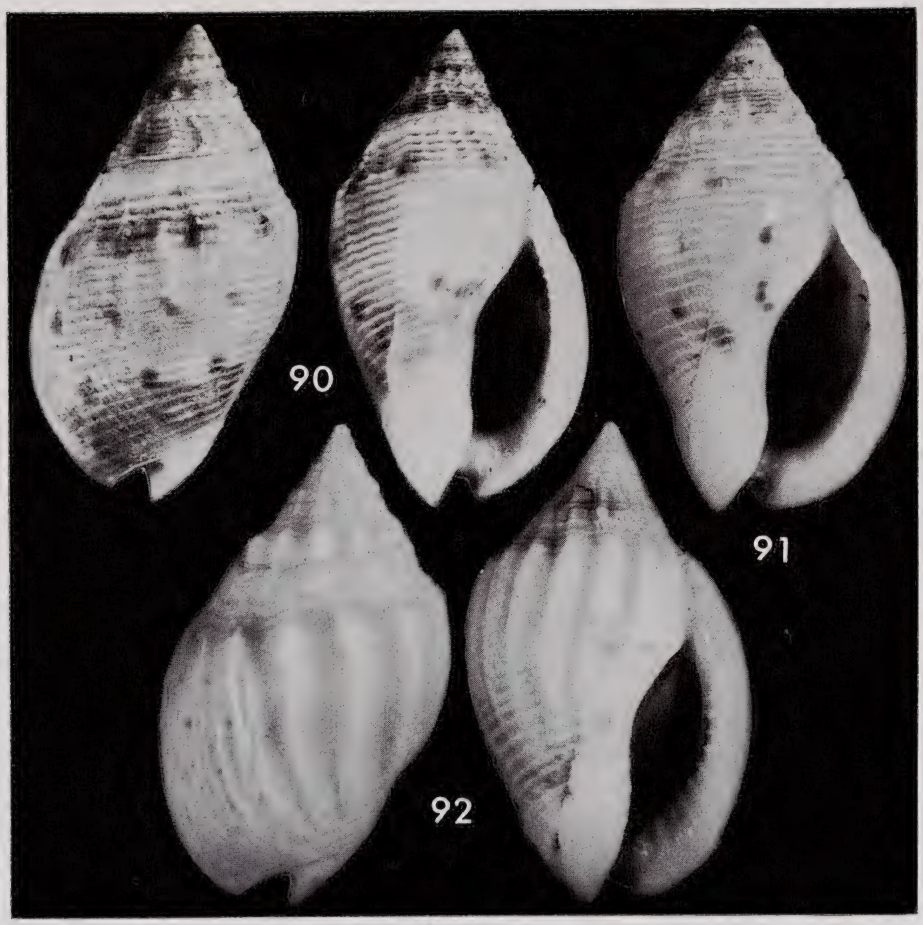
C. owenii. Specimen of *C. owenii* (a questionable type) in the B.M.N.H.; 16.4 × 9.0 × 11.0 mm. Locality unknown.

Gray in Griffith & Pidgeon (1834) briefly described *Cyllene owenii* from unknown locality in the Index of the work, and supplied a ventral view figure on plate 41. This illustration does show the close-set spiral threads extending from the siphonal fasciole to the presutural ramp where the axial ribs gain prominence. Although the usual brown streaks are present in the figure, the spiral cords have been drawn in bluish-violet and the brown patch on the columella of *C. owenii* has been exaggerated. It is highly

doubtful that the specimen illustrated by Gray in Griffith & Pidgeon (*op. cit.*) is the same specimen as the one in the British Museum (Nat. Hist.) and illustrated here.

Gray's labels with specimens of *C. owenii* in the British Museum (Nat. Hist.) enabled Sowerby (1859) to give presentable illustrations of the species, and E. A. Smith (1872) to localise the species from Whydah (= Ouidah, Dahomey, W. Africa). Fischer (1875) subsequently also reported the species from the west coast of Africa, but usually Continental authors preferred to adopt the name *C. senegalensis* for the species.

Cyllene owenii has a rough sculpture of close-set, flattened narrow spiral cords which are bisected by narrow axial ribs in the vicinity of the weak presutural ramp; the sutures are adpressed and form a broad sutural thread which is occasionally granulose. The shell is creamy-white or fawn and ornamented with reddish-brown bands, spots or streaks, usually arranged in 3 spiral rows on the body whorl. The brown colouring tends to spill over on to the columella in a greater or lesser degree, and this feature is clearly indicated in Petit de la Sausaye's (1853) figure of *C. senegalensis* and exaggerated in Gray's figure of *C. owenii*.



Figs. 90-92. 90, 91. *Cyllene owenii* Gray in Griffith & Pidgeon. 90. Specimen from BMNH (questionable type), length 16.4 mm. 91. Specimen from Joal, Senegal, W. Africa; length 15.6 mm. 92. *Cyllene desnoyersi lamarcki* Cernohorsky; Dakar, Senegal, W. Africa; length 20.0 mm.

Cyllene desnoyersi lamarcki nom. n. (Fig. 92)

1822. *Buccinum lyratum* Lamarck, Hist. nat. anim. s. vert. 7: 272 (Seas of Senegal); 1834 Kiener, Spéc. gén. icon. coq. viv. 9: 38, pl. 22, fig. 88; 1844 Deshayes & Edwards, Hist. Nat. anim. s. vert. ed. 2, 10: 170 (non *B. lyratum* Gmelin, 1791).

1851. *Cyllene lyrata* (Lamarck), A. Adams, Proc. Zool. Soc. Lond. for 1850, Pt. 18: 205; 1853 Petit de la Saussaye, J. Conchyl. 4: 145; 1858 H. & A. Adams, Gen. Rec. Moll. 3: pl. 13, fig. 2; 1877, Kobelt. Jahrb. Deut. Malak. Gesell. 4: 298; 1881 Tryon, Man. Conch. 3: 223, pl. 84, figs. 555-557; 1929 Thiele, Handb. syst. Weicht. 1: 326, fig. 373 (radula), fig. 374 (shell); 1956 Knudsen, Atlantide Rept. No. 4: 59; 1968 Nordsieck, Europ. Meeres-Gehäusesch. 1: 144, pl. 23, fig. 81.80.

1859. *Cyllene lyratum* Lamarck, Chenu, Man. Conchyl. 1: 161, fig. 757.

1875. *Cyllene lirata (sic),* Lam., Tournouer, J. Conchyl. 23: 335, pl. 15, fig. 5 (shell), figs. 5a, b (operculum).

1943. *Cyllene (Cyllene) lyrata* (Lamarck), Wenz, Hand. Palaeoz. 6 (6): 1239, fig. 3582.

DISTRIBUTION. Mauritania to Congo, W. Africa.

The substitute name *lamarcki* is here proposed in a subspecific sense for *Buccinum lyratum* Lamarck, 1822, which is a primary homonym of *B. lyratum* Gmelin, 1791, a species in the Turridae. Deshayes & Edwards (1844) and Hörnes (1856) synonymised the Miocene *Cyllene desnoyersi* (Basterot, 1825) with the living *C. lyrata* (Lamarck), but Tournouer (1875) in his review of the two species, kept them separate. The differences in morphological characters between the older Aquitanian *C. desnoyersi* and the younger Tortonian *C. desnoyersi turonica* Peyrot, 1903, are more pronounced than between the latter species and the living *C. desnoyersi lamarcki.* The Aquitanian *C. desnoyersi* has a larger, more ponderous shell, the spire is more elongate, the depression at the suture of the body whorl deeper, the axial ribs are larger, fewer and wider spaced, and the spiral striae cover the whole surface as in *C. owenii* (Gray in Griffith & Pidgeon). The subspecies of *C. desnoyersi* from Upper Miocene deposits of Pontlevoy, Touraine, St. Jean-de-Marsac (Tournouer, 1875, pl. 15, figs. 4, 4a) and the Vienna Basin (Hörnes, 1856, pl. 12, figs. 19a, b) resemble the living West African *C. desnoyersi lamarcki* more closely. The spire has become more depressed, spiral striae are less prominent and the "stromboid notch" on the outer lip has weakened. The proposed division of *C. desnoyersi* into subspecies is as follows:

C. desnoyersi desnoyersi (Basterot, 1825). Aquitanian to Burdigalian, L. Miocene of Europe.

C. desnoyersi turonica Peyrot, 1903. Helvetian to Tortonian, U. Miocene of Europe and tentatively from the Plaisancian, L. Pliocene of Italy.

C. desnoyersi lamarcki nom. n. Recent, West Africa.

ADDITIONAL WEST AMERICAN RECORD

Nassarius corpulentus (C. B. Adams, 1852) (Fig. 93)

1852. *Nassa corpulenta* C. B. Adams, Ann. Lyc. Nat. Hist. New York 5: 284; 1956 Turner, Occ. Papers Moll. Harv. Univ. 2 (20): 44, pl. 5, fig. 3 (figd. lectotype).

1853. *Nassa polygonata* Reeve, Conch. Icon. 8: pl. 18, fig. 123 (*non Buccinum polygonatum* Lamarck, 1882 = *Nassarius*).

1880. *Nassa rufolineata* Marrat, Var. shells gen. *Nassa,* p. 31 (*nom. subst. pro N. polygonata* Reeve, 1853, pl. 18, fig. 123); 1940 Tomlin, Proc. Malac. Soc. Lond. 24: 38.

1971. *Nassarius corpulentus* (C. B. Adams), Keen, Sea shells trop. W. America, ed. 2: 606, fig. 1295.

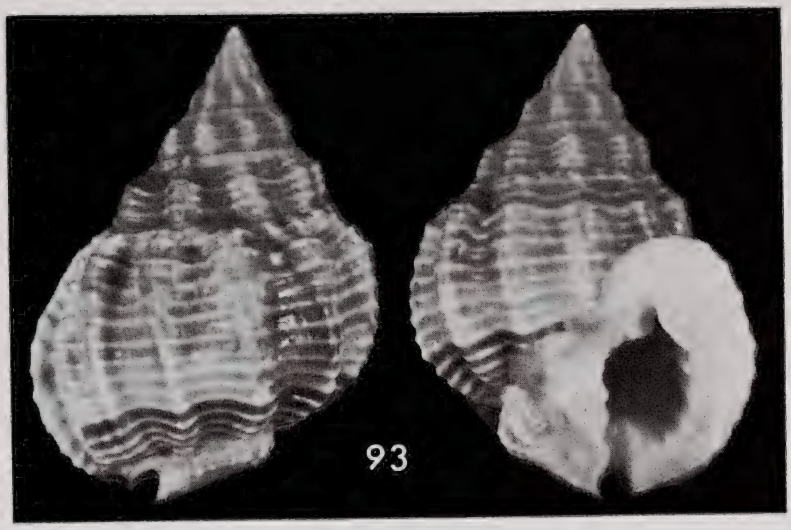


Fig. 93. *Nassarius corpulentus* (C. B. Adams). Syntype of *N. polygonatus* (Reeve) and *N. rufolineatus* (Marrat), BMNH; length 21.7 mm.

DISTRIBUTION. Mexico to Ecuador.

TYPE SPECIMENS AND TYPE LOCALITIES

N. polygonata and *N. rufolineata.* Three syntypes in the B.M.N.H.; illustrated syntype 21.7 × 15.9 × 12.8 mm. Shell light brown in colour with a broad whitish band on body whorl, some axial ribs white, basal band on body whorl composed of brown lines between spiral cords. Sculptured with 9 axial ribs and 7 spiral cords on the penultimate and 9 ribs and 15 cords on the body whorl, fossa deep, siphonal fasciole with 6 oblique cords, outer lip with 7 denticles, columella with 2 basal folds and smaller nodules posteriorly. One other syntype has a very weak, almost obsolete spiral sculpture on the body whorl and closely resembles *Nassarius shaskyi* McLean, 1970. Isle of Camiguing, Philippines, sandy mud, 30 fathoms (55 m) = error.

N. corpulenta. Lectotype in MCZ No. 186352. Panama.

Acknowledgements. I would like to record my appreciation to the Curators and Museum staff who permitted access to type-collections in their respective care or facilitated the loan of type material of Nassariidae pertaining to this paper. My thanks are due to Dr J. Taylor, Mr J. Peake, Mr P. Nuttall and Ms K. Way, British Museum (Nat. Hist.), London; Dr J. R. A. Gray and Ms N. McMillan, Merseyside County Museums, Liverpool; Dr R. Kilias, Zoological Museum, Humboldt University, Berlin; Dr H. A. Rehder, Smithsonian Institution, National Museum of Natural History, Washington; and Mr B. F. Kensley, South African Museum, Cape Town. I am grateful to Prof. Dr W. Adam, Institut Royal des Sciences Naturelles de Belgique, Brussels and Dr M. Keen, Stanford University, California, for their invaluable comments and discussions regarding the synonymy of West African and West American Nassariidae respectively. A monetary grant towards the cost of illustrations received from members of the San Diego Shell Club, California, is gratefully acknowledged. I would like to thank the following members: Ms W. Ames; Mr and Mrs W. Barber; Mr and Mrs H. Bradner; Mr and Mrs F. Bratcher; Mr and Mrs D. Dillworth; Ms M. Dippel; Mr B. Draper; Ms B. Good; Mr and Mrs E. Haigh; Drs G. and L. Lindegren and Mr and Mrs B. Purdy.

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